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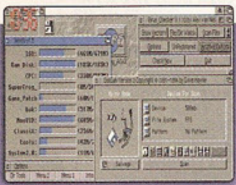


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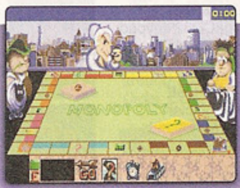
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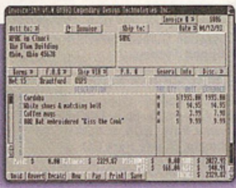
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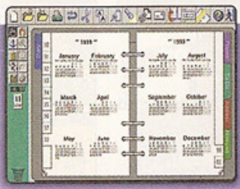
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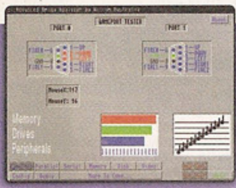
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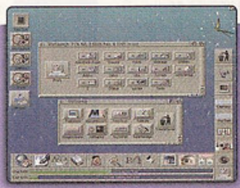
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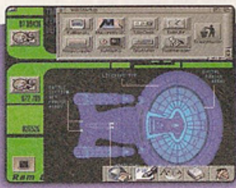


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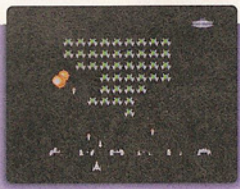


A1200 Highly recommended for this title.

A New Workbench Theme Set - *Startrek*, Includes all you need to give your Workbench the style of Startrek. Hundreds of Icons, over a dozen backdrops and numerous sound clips.
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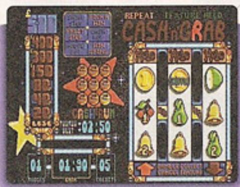
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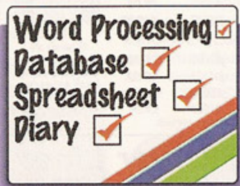
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AmSound - Plays random soundfile when booting Amiga.
AnalogMouse - Allows you to control your mouse with an analog joystick connected to the joystick port.
AutoRun3 - Check immediately internal diskdrive and if you insert some DOS diskette, its look For the Auto-StartUp. If the script exists then will be executed.
BootPic - Boot program that shows your system configuration The program shows the configuration with Amiga Logo.
CopyProgress - A replacement for Workbench COPY command- this one shows a Progress-bar.
Day-Tools - Includes DayCopy, DayList, DayMove and DayDelete. You can setup a time to perform any of these commands on a regular basis.
DelZero - DelZero is a AmigaOS 2.x/3.x DOS util that will change the size of a file to zero, then attempt to delete it.
DirScanner - A very nice and powerful Filefinder.
Features: Nice MUI-GUI, Search by name, size anf date.
- Matching files can be directly started or viewed.
Doodle -Allows you doodle on your Workbench screen. It has six built in drawing tools and it allows you to use eight colours for both the drawing and background.
DrivePrefs - A small CLI command to change the settings of trackdisk device floppy drives (i.e. normal floppy drives), allowing you to set the head step, settle and calibrate delays, number of retries on a damaged track, and to stop the drive click.
EasyTransfer -Transfers files between an Amiga and IBM using a wire serial NULL modem at up to 115200 bps.
Executor1.2 - Executor consists of a selection list from which you can run up to 1000 programs (applications, utilities, tools, scripts, games) with a simple double-click.
Fitter is a program that copies files from one source, most likely your hard drive, to disks. Fitter does this in an automated, optimizing fashion.
FixMWB - Drop those horrible messed up MWB icons onto the appicon. With any luck they will come out looking normal.
FloatingClock - It is basically a digital clock which sits nicely anywhere on your Workbench screen.
FMS - Useful for creating a floppy-like partition on your harddisk (so you can diskcopy to a floppy) WITHOUT actually having to create a special partition for it.
GuideGen is a utility to generate AmigaGuide databases. It allows you to add and remove nodes, edit each node's text, arrange the node's order, and create buttons and link them to other nodes, potentially in other files.
HappyDT - This commodity provide the use of datatypes to ALL software like Deluxe Paint, Brilliance, etc...
Iconer is a small program to use from DOS with programs like Directory Opus. It simply creates / replaces icons.
IfNoDrive - Warn or reboot if HD drive not present upon Boot.
JoinSplitter - A program that you can use to split and join files with using a graphical user interface!
KSC_TinyTools - 16 Very Small but VERY useful tools.
LastGuru - This program keeps informations about the last software failure and will print out as much information as possible.
MaxMenu - Attractive ToolManager like Startbar- Like Windoze95
MoreTools2 - MoreTools is able to add items to the Workbench "Tools" menu to run programs or execute commands.
MultiHelp is a program which provides you with online help for almost any program that you may be using from workbench.
MultiRename was spawned from the need to renumber and/or rename files which shared the same base name with numerical extensions.
OverRes - Get 724x566 resolution on a standard CM33II/1084s.
PCGamepad2Amiga - Describes how to build an adapter for connecting a PC gamepad or joystick to the Amiga and use it as digital joystick.
Physical Disk Repair is a utility to make bad disks re-usable for short term data transfer between computers.
Play16 - A versatile 8/16bit soundplayer for the Amiga with heaps of options.
Pointers - Eight new Pointers for WorkBench.
ProPassWord is Password protection for your HD it will ask for a user name and password on start-up
QuickGrab - A powerful configurable ScreenGrabber.
ReBoot - Auto Reboot after 5 seconds. If the main "system" Partition is not found.
SafeReset - Eliminates many Software Failures after a soft-reset on high spec Amiga's.
SayMore replaces the Say command. For use with the new narrator.device.
Size-Tools - Four small tools for deleting, renaming and copying files by their size.
SleepPointers - Animated Busy Pointers in hires for WB3.0+
Sort1.80e - Sorts ASCII-Files, FAAAAST
Swipe - An enhanced version of the DOS delete command. It is able to delete directories with assigns on them by identifying the assign and removing it before the deletion.
TalkMaster - A great speech toy!
TopazPatch is yet another program that will enable you to use a prefered font in place of topaz font.
VClock_v1.4 - This is a *real speech* clock. It runs as a commodity, uses little memory, and has some neat features.
Wait-Gui - Replacement for the 'Wait'-Command of your WB. This one has a Window with a progressbar and some other nice enhancements!
WB-Tidy - A little program that lets you diddle around with the size and position of your Workbench windows.
Win95KeyboardMap - Windows95 GB Keyboard Keymap.
WinFo - Show volume usage graphically - A graphical version of the 'info' shell command.
XToolBox - A fast and easy to configure menu for Workbench.
YADI is a small cli/shell program to transfer disk images to and from Amiga devices. Similar to DMS but YADI can also make a disk image of a whole hard disk or and image of a PC disk etc. So backing-up your HD is a sinch!
YetAnotherCalculator - A very simle calculator that supports conversion of HEX, DEC, BIN etc
ZipMount
Mountlists to use PC and Mac formatted IOMEGA ZIP disks with your Amiga. (CrossMAC and CrossDOS needed).

Hot Software

Libraries - The definitive 4 disk set. *(17-4010abcd)*	£8
Professional Mono Clipart - 10 disk coll. *(GFX13-10)*	£10
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Hardware Projects - Hardware hacks for A1200. *(HWP6-3)*	£5
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Month in View

Ben Vost, finally full editor after all this time, gives you the lowdown on this great issue of *Amiga Format*.



Ben Vost
Editor

So there I was, sitting in my publisher's office having our weekly chat when he said to me that I was now full editor of *Amiga Format*. At first it wasn't a big deal really – I'd been an editor before on *Amiga Computing* – but after a while it sunk in that I was on the next rung of the ladder. I had started in the Amiga world as a mere shop assistant back in 1986, selling Amiga games, and games for other platforms – remember the Sega Master System and the Commodore64, and some machine called an Atari? I eventually became a sales person for a distributor in 1988 for a company called HB Marketing.

We used to sell all sorts of things but, as I discovered when I became a purchaser there, one of the most popular was Newtek's Digiview Gold slowscan video digitiser which sold for about £150 retail, and yet I know it only cost about $10 to make. HB Marketing made me redundant because they were going down the pan so I joined MicroPACE UK as their technical manager. I had to decide what to buy by using it and I had to answer all the technical queries too. Unfortunately, they closed down in 1992 and I was on my own for a bit until I joined *Amiga Computing*.

So you can see that the path to the top was long and hard but I stuck with it, and the moral of this little tale is that Amiga Inc. seem to be grinding slowly up to their peak as well. It's also a reminder that the next issue *Amiga Format* will our 10th anniversary.

Only one other of Future's magazines is as old as this and *PC Plus* (for it is this mag) isn't half as interesting as ours. We've already had photos taken of some of the old hacks who used to work on the magazine at some point in its past, and we've found loads more in our photo dungeon, so expect to see some familiar faces popping up on the pages of this hallowed tome next issue.

Until then, there's plenty to get your teeth into, so enjoy this issue and let's hope there'll be many more for years to come yet.



14

AMIGA INC. FEATURE
What are Amiga Inc. up to? We talk to Jim Collas about the future of the Amiga and how he got involved with our favourite computer.

JOYOUS GAMES FOR ALL THE FAMILY
Not only do we have a review of game-out-the-blue *Red Mars*, but we've got *Heretic* too!



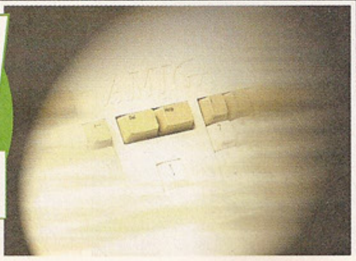
25



52

HEAD-2-HEAD
Starting a new regular review feature, we look at a variety of C compilers to see which one is the nicest.

NEW Tutorial



PROGRAM PERFECTION
Richard Drummond starts a new tutorial about making sure you program properly.

66

AMIGA FORMAT Contents

ISSUE 125 JULY 1999

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8 AMIGA DVD AND USB
Power Computing announce plans to produce new hardware add-ons.

10 WORLD OF AMIGA
The latest news on the UK's largest Amiga show.

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The latest Aminet and PD with **Richard Drummond**.

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Cheap, fast, guaranteed – the best way to get *AF*.

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No questions are too tough for **John Kennedy**.

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Get the most from your mobile phone via the net.

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Four pages of buying, selling, shops and contacts.

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Chris Livermore buys a round in Edinburgh.

93 AFB/FAX-BACK
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CREATIVE

66 PROGRAM PERFECTION
A brand new tutorial from **Richard Drummond**.

68 USEFUL AREXX
Nick Veitch makes strings and functions useful.

70 BANGING THE METAL
Simon Goodwin and his magical Mouse Organ.

72 USING HTML
Add the finishing touches to your website.

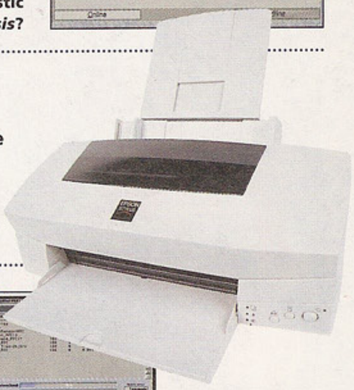
SERIOUSLY AMIGA

48 MIAMI
Neil Bothwick gets online with the beta version of this TCP stack.



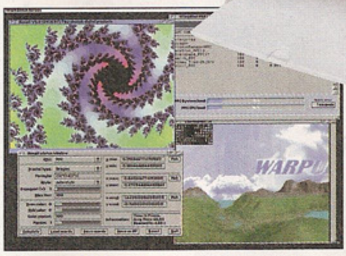
Is the new version of *Miami* a realistic alternative to *Genesis*?

50 EPSON PRINTER
Photo realistic output at a new, cheap price sounds like the write stuff to **Ben Vost**.



When you've got a top printer, make sure you get a copy of *TurboPrint* too!

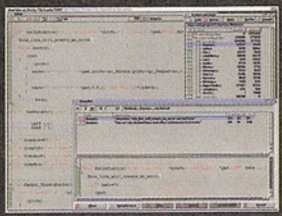
51 WARPUP
Will version 4.0 of this PPC kernel finally kill off the PowerUp system? **Richard Drummond** tests it out.

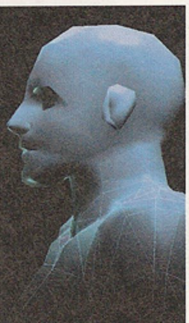


PowerUp and WarpUp programs can both run at the same time now.

54 HEAD-2-HEAD C COMPILERS
Our new, regular review feature kicks off with a look at which C compiler is the best.





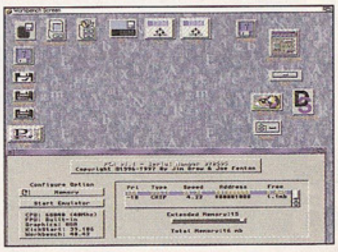


55 MAGICXPRESS
With ISDN becoming cheaper all the time, **Neil Bothwick** wonders if it's time to ditch your modem.



Although it may look like a standard modem, it offers a superior performance.

57 READER REVIEW
Nick Lamburn looks at PC emulator *PCx* and provides some advice on getting the best from the software.

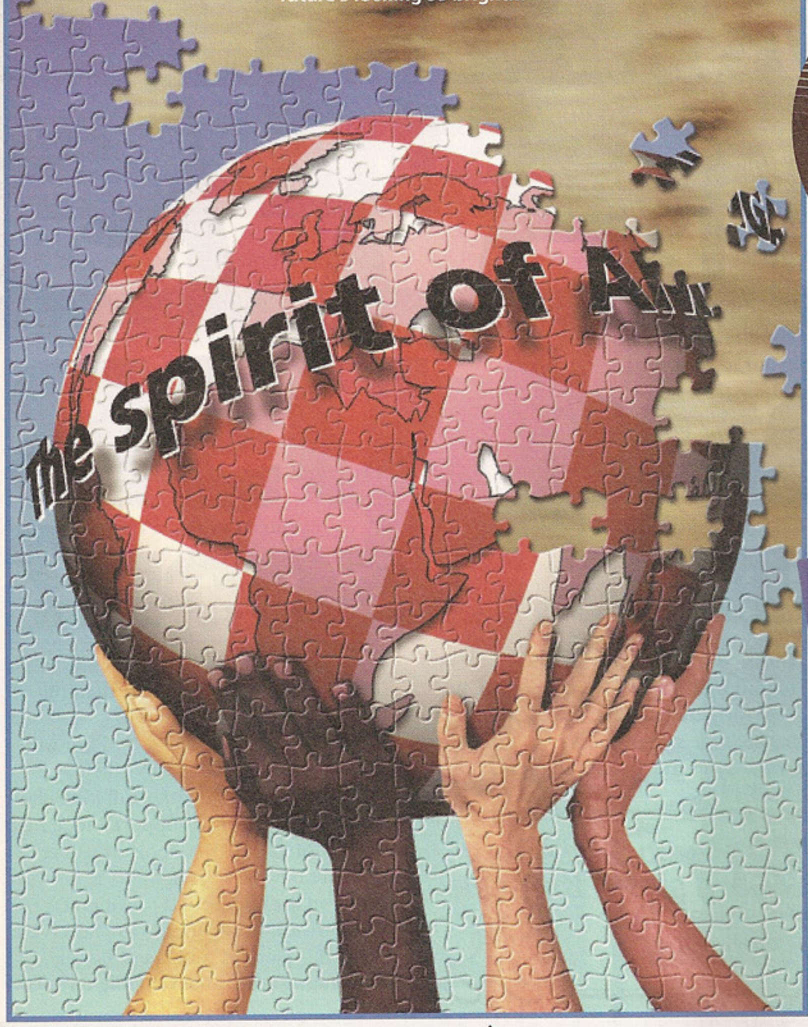


If you feel the need to have MS-DOS and Windows on your Amiga, *PCx* is a good system to use.

AF COVER STORY

p14

After two years of apparent inactivity, Amiga Inc.'s Jim Collas talked to **Ben Vost**, **Simon Goodwin** and **Richard Drummond** about the fate of the Classic Amiga range, the role of PowerPC, why Amiga Inc. are changing their name and why the next generation Amiga will be more than capable of taking on Microsoft.
Our huge, six-page feature explains exactly why the future's looking so bright...



AF CD-ROMS

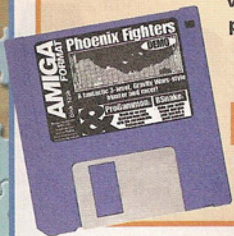
84 AFCD41
Over 650Mb of useful stuff, including loads of website software, a sample editor, an *Evil's Doom* demo, your stuff and lots more!



AF COVERDISKS

80 ABACKUP
Backing up your data is vital, and this superb program makes that job a lot easier.





PHOENIX FIGHTERS
Flying, racing and adventuring in this *Gravity Wars*-style arcade game.

AF SCREENPLAY

PREVIEWS 26
Ben Vost introduces the best upcoming games.

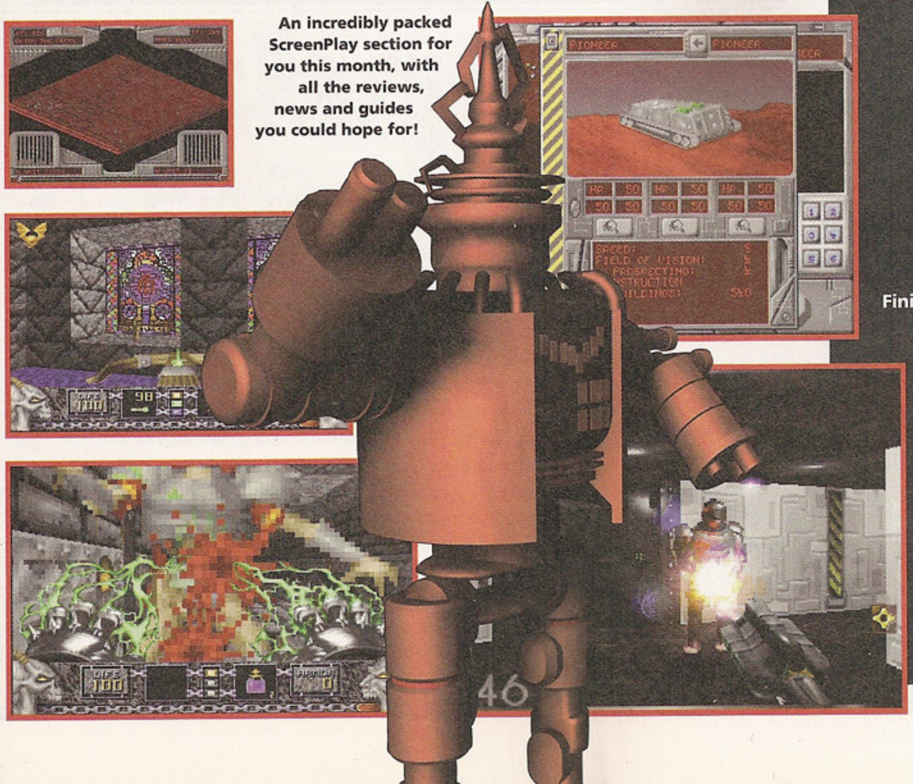
HERETIC 28
Better than *Doom* or *Hexen*? Find out here.

RED MARS 30
Fight it out on Mars in this *Dune II* clone.

READER REVIEW 32
Genetic Species gets a reappraisal.

GAMEBUSTERS 34
Finish *Quake* with all the secrets and bonuses!

An incredibly packed ScreenPlay section for you this month, with all the reviews, news and guides you could hope for!





WHAT'S UP?

Amiga DVD and USB
Power Computing announce their plans to make DVD and USB hardware.

WOA update
All the latest news from the UK's largest Amiga show.

REBOL 2.0 released
New Amiga language updated.

AMIGA WORLD NEWS

DVD and USB for the Amiga soon?

Power Computing are set to launch the follow-up to the A1200 Power Flyer next month with the Power Flyer A4000. A Zorro III card, it will be suitable for A4000s, A3000s and any Amiga equipped with a Zorro III bus.

Like the original Power Flyer it supports IDE modes up to PIO-4, allowing for up to 16.6Mb per second transfer rates between an ultraDMA drive and the host computer. It will also have two separate IDE ports which will allow up to four drives to be connected. It will deal with drives larger than 4Gb in size in the same system-friendly way that the Power Flyer did, by splitting the drive into logical devices no larger than the Amiga can handle by default.

> "It will deal with drives larger than 4Gb in size in the same system-friendly way that the Power Flyer did..."

Better yet, the new Power Flyer will also come with a new *CDFS* called *AllegroCDFS*. This will offer full ISO9660, RockRidge and Joliet support and, a first on the Amiga, UDF support. If you're unaware of what UDF support is required for, it's needed for video DVD support. You won't be able to play DVDs on a bog-standard Amiga but Power Computing are also developing an

Amiga Inc. update

We received an update on all the activity at that hive of industry we call Amiga Inc. We looked at the list, thinking of ways to present the information and then decided that it would probably be best if we simply gave it to you as we received it...

UPDATE ON MAJOR ACTIVITIES – MAY

OPERATIONS/PLANNING: 1. We're looking in San Diego to move out of the Gateway building into a separate Amiga building in order to accommodate the expansion in Amiga's San Diego staff.

NEW STAFF: 1. We hired Tom Schmidt as our Chief Operating Officer (COO). Tom Schmidt is an experienced senior executive from Allied Signal, which is a $30 billion corporation.

2. Several weeks ago we placed Amiga employment ads in major newspapers and now have a significant amount of highly qualified leads that we are reviewing.

3) We have hired a full time recruiter to co-ordinate our expanded recruiting efforts.

MAJOR DEVELOPMENT PROGRAMS: 1. OS3.5 – This product is being developed by Haage & Partner under contract from Amiga Inc. The target release date is late July or early August. We're talking to Amiga hardware development companies to qualify hardware products targeted at the OS3.5 release. We plan to come out with a recommended hardware configuration and a list of qualified Amiga hardware products for OS3.5.

2. AmigaSoft™ Operating Environment (OE) – We're developing our next generation operating environment, including operating system, user interface and some revolutionary software structures to be disclosed at a later date. Target beta version is for the third quarter of 1999, with the final in the late fourth quarter of 1999. We're also looking at the possibility of porting this new AmigaSoft™ OE to the OS3.5-recommended hardware configurations. If we can accomplish this it will allow people to run the new OE on specific Amiga configurations with PowerPC boards.

3. Next generation hardware architecture – Being developed as a foundation for all next generation Amiga products. We are within several weeks of final component selection.

4. AmigaSoft™ development system – This is planned for the third quarter of 1999, along with the beta release of the new AmigaSoft™ Operating Environment.

Talking heads

What have the Amiga Format staff been doing this month?



Ben Vost
Editor
As summer is in the air, I've pretty much spent all month in lederhösen, yodelling and climbing Bath's many glorious hillsides, picking flowers and having picnics.



Richard Drummond
Staff Writer
I'm in reality mode for a change this month (it won't last). I've done nothing of any interest and can't be bothered making up amusing lies to disguise that fact, so there!



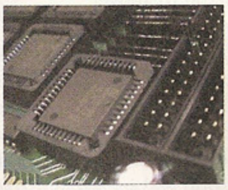
Mark Wheatley
Prod. Editor
A very lethargic month involving sleeping in the sun, eating ice creams, lazy pints in the pub and a distinct lack of disgruntled, mutated squid. Which is always nice at this time of year.



Colin Nightingale
Art Editor
I've been in the garden tending to my giant vegetables which I'm submitting in the local summer fete. This year I hope to trounce the vicar who won with his impressive monster marrow last year.

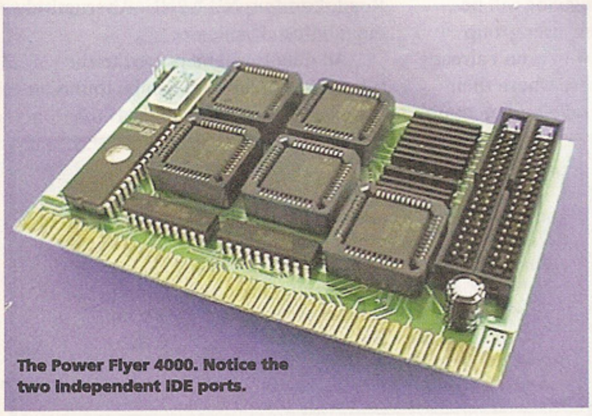
MPEG2 decoder card that will be able to allow playback of the newest video format on your Amiga.

The decoder card is at a very early stage of development right now so we don't know what form it will take, but it's certain that it will output a video signal of its own which can be plugged into a normal TV set. We're also hoping for support of the Picture in Picture function of several graphics cards like the PicassoIV, CyberVision3D and others. Those with standard Amigas will have to upgrade them in order to play back DVDs on their Workbench screens as this kind of functionality is only really possible with graphics cards.



Power Computing are also set to launch their USB port for Zorro-based Amigas. This will follow the A4000 Power Flyer by a month or so and should also access the many USB printers, mice, keyboards, scanners and more that are coming onto the market. The major problem is drivers for these peripherals, but thanks to the Amiga's modular approach it should be no more difficult than adding a new serial port.

Power's USB card is not the only one proposed as the makers of the Prelude soundcard (ACT) and the makers of the Hypercom serial port (VMC) are busy making their own. More news on this as we get it, or you can call Power Computing on 01234 851500.



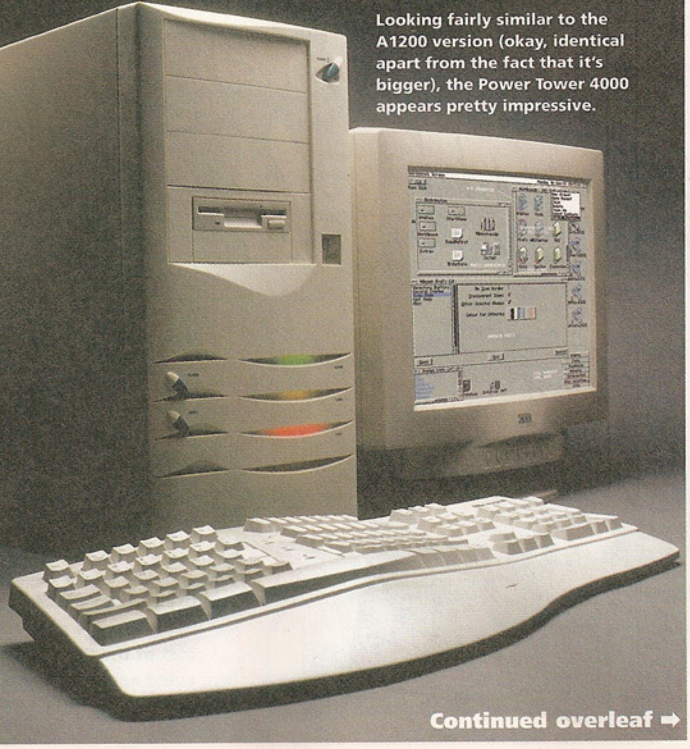
The Power Flyer 4000. Notice the two independent IDE ports.

5. Initial next generation computer – We're developing the next generation computer that will be used to launch the next generation system architecture and operating environment. The target release date is the late fourth quarter of 1999.
6) We've released concept drawings of the next generation Amiga products to the Amiga press (*but not in time for this issue before it went to press. For those not online, we'll carry the pictures next month – Ed*).
SHOWS AND COMMUNITY ACTIVITIES: 1. Amiga Inc. visited Germany and the UK and met with representatives of the Amiga community. We held meetings with leaders of the Amiga community and discussed future Amiga plans.
2. We will sponsor and participate in the 1999 London World of Amiga show in late July.
3. We're also planning to support the AmiWest show in July.
4. We're planning for the Cologne and Las Vegas shows in November. The Las Vegas show is ComDex, which is a general computer-related show that's attended by tens of thousands of people.
5. Petro Tyschtschenko and Jim Von Holle are developing reseller, distributor and magazine support programs to help the Amiga community.
6. We are also working on some user group support programs and improved communication programs.

NEW A4000 TOWER

Power Computing have been very busy this month. Not only are they gearing up to offer DVD, ultraDMA and USB, they've also followed up their impressive tower case for the A1200 with one for big box Amigas. Although it looks similar to the Power Tower, the Power Tower 4000 is based on a larger version of the tower case and has a cut out in the back specifically to suit an A4000. In addition to power supply and other necessary leads, this tower case comes with a Zorro board extender. Since keeping the existing backplane in the A4000 would mean that Zorro cards would have to hang upside down, there is a new backplane that hangs in parallel with the newly vertical motherboard. Rather than simply duplicating the A4000's standard backplane, it offers two video slots, seven Zorro III slots and five ISA slots, which aren't activated, except with a bridgecard.

This tower should be available within a month of this issue being on sale, at the very reasonable price of £189.95. For more details on this, call Power on 01234 851500.



Looking fairly similar to the A1200 version (okay, identical apart from the fact that it's bigger), the Power Tower 4000 appears pretty impressive.

Continued overleaf ➡

THE WORLD OF AMIGA

WOA update

PBA events, AmigaSoc UK and user groups from around the UK have been working hard to make sure that WOA '99 will be very different this year. User groups from around the UK are contributing heavily to the show to ensure that it will be an event to remember. This year, as well as all the usual exhibitors and attractions, we're pleased to announce that there will be even more to see.

New events will include:

■ **Cybercafe:** If you're not already on the Internet, come along to see just how easy it is to get your Amiga connected! Volunteers will be on hand to answer any questions you have about your Amiga and the web.

■ **Gaming contests:** Play the latest Amiga games head to head with other show goers. You might even win a prize!

■ **User group presence:** Come along, meet your local user group and see what they can offer you. AmigaSoc will be providing access to their user group locater so that people who aren't already online can see at a glance where their local group is, and then go and meet up with them.

■ **"How To" sessions:** Scared of towering up your Amiga? Want to know how to add a CD-ROM drive? Curious about ROM upgrades? We'll show you how!

■ **Shareware registration:** The easiest way to get keyfiles for your favourite software, without having to go to the hassle of sending money abroad.

■ **Video:** A celebration of the Amiga spirit. Compiled by video experts from SEAL, it will be screened at the show and possibly sold on tape. This promises to be something special.

■ **Lots of other goodies:** Not only will there be a number of door prizes, but we're currently in negotiation to secure some tickets for the new *Star Wars* movie. If you live outside the UK, why not come to the WOA show and see *Star Wars* in London at the same time ?

If your user group is interested in having a table, or you have a great idea for a "How To" session that you'd like to see, or if you'd like to sell Shareware that you've written, please write to us at this address: AmigaSoc, UK IMM Studios Ltd, Unit 4, Heathgate Place, Agincourt Road, London, NW3 2NU. Alternatively, email info@uk.amigasoc.org

All details will be posted to the official website, which can be found at: http://www.worldofamiga.com

SHOW DIARY

JULY 23-25: AMIWEST '99 in Sacramento, California, USA – Holiday Inn, Sacramento, Northeast, 5321, Date Avenue, Sacramento, California, USA. http://www.sacc.org/amiwest/

JULY 24-25: WORLD OF AMIGA in London, England – Kensington Town Hall, London, England. http://www.worldofamiga.com

AUGUST 21-22: AMIGA DOWNUNDER '99 SHOW in Canberra – Australia Hotel Heritage, 203 Goyder Street, Narrabundah 2604, Canberra, Australia. http://www2.dynamite.com.au/krash/amigadu/

SEPTEMBER 4: SAKU '99 in Vantaa, Finland. Details to follow. http://batman.jytol.fi/~saku/

SEPTEMBER 24-26: INTERNATIONAL AMIGA '99 in Toronto, Canada. Details to follow. http://www.randomize.com

NOVEMBER 12-14 HOME ELECTRONICS WORLD '99 in Köln, Germany. Details to follow.

APRIL 2000: SWISS COMPUTER FUN 2000 in Switzerland. Details to follow.

WIN A GT5000 SCANNER

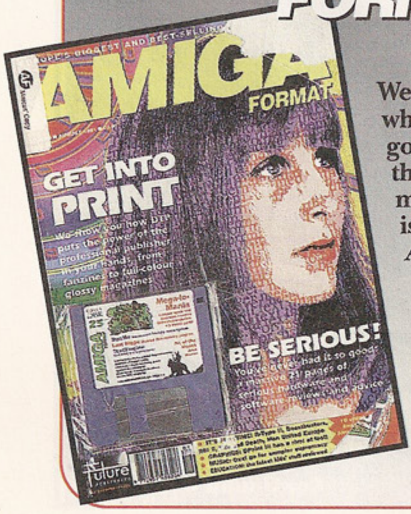
The Portsmouth-based Power Amiga user group are holding a raffle. First prize is an Epson GT5000 24-bit colour flatbed scanner and *ImageFX*, donated by Nova Design.

Tickets are £1 for non-Power members. If you're a user group member you can buy three tickets for £2.50.

Check out their website at http://welcome.to/paug or contact them at this address: PAUG, R.Blair, 6 Villiers Road, Southsea, Hants, PO5 2HQ.

100 Issues ago — AF25 August 1991

AMIGA FORMAT



We look at what was going on in the Amiga market 100 issues of *AF* ago…

■ **Cover feature: Get into Print. Interview with an Amiga DTP house and how to lay out pages. There's a complete guide to *The Secret of Monkey Island* and Marcus Dyson gives all the scores and page numbers of reviews from *Amiga Format* so far.**

■ **On the disks: One coverdisk again, this time with a demo of *Mega-lo-mania* and a load of other stuff.**

■ **News: *DPaint* 4 coming out soon, CDi posing a challenge to the nascent CDTV market, *The Chaos Engine* was announced, HAM-E details emerge and the A500's best hardware product of all time, the GVP A530, is announced.**

■ **Prices: Sharp's JX300 A4 colour scanner that used a GPIB card to interface it to your Amiga had a meagre price of just £1,320, plus the cost of the *Scanlab* software for *AdPro* that you'd need to drive it.**

■ **Games reviewed included: *Life and Death* (Mindscape) 70%, *R-Type II* (Activision) 88%, *ProFlight* (Hisoft) 75%, *Halls of Montezuma* (Strategic Studies Group) 43%, *Trojan Phazer* (Trojan) no score.**

■ **Serious products reviewed: *Aegis Sound Master* (HB Marketing) 89%, *Pixel 3D* (Precision) 85%, *CanDO v1.5* (Checkmate) 80%, *Quarterback Tools* (ProARK) 85%, *Turbotext* (HB Marketing) 92%, *Kidstype* (Genisoft) 95%, *3D Text Animator* (Mindware International) 63%.**

■ **Notes: The *Pixel 3D* review had a great strapline (the subtitle) – "Please put a strap in here that is exactly two lines long, not one character more or one character less, and don't forget and let this go to the printers". Mark would never let something like this through. Honest.**

■ **Pages: 204** ■ **Cost: £2.95**

Amiga.org news hoax

An unknown user or users broke the security of the Amiga.org news database and posted malicious hoax stories on the site's new pages. The incident must have occurred in the early morning of May 18th, US time, while the Amiga.org team were asleep.

One story posted claimed that Holger Kruse had been successfully sued by an unspecified party for the inclusion of so-called backdoor features in his Amiga TCP/IP connectivity software, *Miami*. Rumours had been circulated previously by the notorious cracking group, Digital Corruption, that they'd found such backdoors in *Miami*, but this was merely a smokescreen for their own illegal activities.

Responses to this story were quickly posted to Amiga newsgroups by both Holger Kruse and Amiga.org. Kruse said:

"That report is false. We assume that the Amiga.org website was "hacked" by Amiga cracker groups, and that these groups are now trying to, once again, tarnish our good reputation in order to retaliate against our active anti-piracy measures... Our software does not have any backdoors, it never has and never will."

Amiga.org apologised for the incident with this statement: "I awoke this morning to find about 25 emails and a number of stories posted in our news database which were not only incorrect but highly offensive. Rest assured that the crew at Amiga.org did NOT make those posts...

"Our sincere apologies go to our readers, and most of all to Holger Kruse of Nordic Global... we officially and highly endorse the use of *Miami*."

Amiga Format would like to add that we also use and endorse *Miami* and deplore the libellous reports of the hoaxers.

Rebol 2.0 released

Version 2.0 of *REBOL* (*Relate Expression Based Object Language*) has been released for over 15 platforms, one of which is the Amiga. Releases for even more systems are pending.

REBOL is a platform-independent messaging language with integral support for common Internet protocols such as HTTP, FTP, SMTP, POP3, etc. It has been designed with ease-of-use in mind and features 'dialecting', the ability to express programming solutions in a form which is much closer to natural languages.

The founder of REBOL Technologies and the creator of the *REBOL* language is Carl Sassenrath, a name which should be well-known to Amiga users – Sassenrath was responsible for the architecture of the Amiga's operating system.

REBOL 2.0 may be downloaded for free from the company's website at http://www.rebol.com/. The site also contains extensive guides to the language, as well as a library of useful *REBOL* scripts.



VOX POP

afb members were asked which logo they'd prefer for the new Amiga:

CATEGORIES:
- Bill Gates' head on a spike
- Tick
- Boing Ball
- Something new
- Tick and Boing Ball combo



Vital Horgan



Welcome to the wonderful world of Horgan. Why wonderful? Because I'm three days away from getting married, and also because I'm about to fulfil an ambition I've held for virtually all my Amiga-owning days, and that's to make and release a record.

In the past I've been lucky enough to be able to covermount my own techno doodlings on thousands of CDs, but that's like a chef force-feeding his diners. Where's the satisfaction in that? No, the real test is to make a record and release it into the wild to fend for itself, where with any luck it'll avoid the grisly fate of consignment to the bargain bin.

I've spent so long telling people how to make music with Amigas I thought that it was high time to put up or shut up, and what with my recent spell of self-unemployment coupled with the purchase of a new keyboard and drum machine, the dream was there for the taking. So far I'm about halfway through the process of getting it a proper commercial release.

It's been fascinating to see exactly what goes into turning a couple of tracks on a CD-R into a fully fledged 12 inch single on sale in real shops to real people. I won't go into detail here but you'll be able to read all about it in the September issue of *Amiga Format*.

As you'll obviously be wanting to get your copy as soon as possible, I should tell you that it's called *Can't You Feel It* and it's going out under my own name rather than a silly made up one. It's only on vinyl at the moment and you'll probably have to ask for it at your local independent dance music record shop. Well, that's all from me for now – I'm off to practice my wedding speech and finish that banging techno remix of *Here Comes the Bride*, just to make sure that special day really goes with a swing...

Tony Horgan



Continued overleaf ➡

AAA Awards Voting - Now With A Grand Prize Raffle!

Now is the time to cast your vote for the AAA Awards 1998. Please post the voting form below, or use one of these methods: email http://www.aaa-awards.org, phone +46 90710020 (24 hours) or fax +46 90710146.

The nominees shown have been selected by our juries worldwide from all suggestions submitted to us from the Amiga community. Voting is open until June 30th.

Once you vote for the AAA Award International 1998, we'll automatically place you in the raffle to win:

- A brand new, specially designed, hand-airbrushed Amiga 1200HDD.
- Twenty copies of Cloanto's *Amiga Forever Online Edition.*

Send your entries in now!



People voting for the AAA Awards could win prizes.

The AAA Awards 1998 will be presented at these locations: **AAA Award International:** World of Amiga '99, The Kensington Town Hall Conference Centre, London, UK (July 24th-25th); **AAA Award Belgium:** Waaslandia Merksem Meeting, Café Pierre De Deken, Merksem, Belgium (July 8th); **AAA Award Spain:** Radykal Amiga Party, Armilla (Granada), Spain (October 29th-November 1st); **AAA Award Sweden:** Stora Nolia fair, Umeå, Sweden (August 7th-15th); **AAA Award United Kingdom:** World of Amiga '99, The Kensington Town Hall Conference Centre, London, UK (July 24th-25th). See the website at: http://www.aaa-awards.org for the exact dates and times. The AAA Awards are organised by the Swedish user group, Amiga Computer Group, in co-operation with AMIGA, AmigaSOC, Amiga Users Club of Spain, Cloanto and the Waaslandia Amiga-Only Club.

PLEASE SEND YOUR VOTING FORM TO THE ADDRESS THAT'S CLOSEST TO YOU

- **AAA Awards Votes, AmigaSoc, UK IMM Studios Ltd, Unit 4, Heathgate Place, Agincourt Road, London NW3 2NU, UK.**
- **AAA Awards Votes c/o Erik Holmgren, Älvkarleövägen 36 SE-814 94, Älvkarleby, Sweden.**
- **AAA Awards Votes, c/o Christophe Heereman, Co-ordinator, AAA Awards, Belgium, Aalstersesteenweg 95 B-9400, Ninove, Belgium.**
- **AAA Awards Votes c/o Club de Usuarios de Amiga en España (CUAE), calle Algorta, 9 28019, Madrid, Spain.**

Vote 24hrs! Vote by phone! +46-90-71 00 20 Vote by fax! +46-90-71 01 46 Vote 24hrs! Vote online! http://www.aaa-awards.org

Please check one (1) of the nominees as being the one you feel should win. Please do not cast votes in categories other than "AAA Award International" and your home country's award.

AAA Award International



❑ **Marcel Beck**
"For his creation of and continuing devotion to YAM, Yet Another Mailer. Its many features, ease of use, stylish GUI and stability make it an unparalleled e-mail client, which also is completely free!"



❑ **HAAGE & PARTNER Computer**
"For their unwavering commitment to the Amiga, constantly producing great software at a reasonable price, as well as key developments such as WarpOS, Warp3D and StormMesa."



❑ **HAAGE & PARTNER and phase 5**
"For introducing the PowerPC on the Amiga, and creating such good hardware and software for it. The PPC cards of Phase 5 as well as the WarpUp software of Haage & Partner have boosted Amiga performance tremendously."

AAA Award UK



❑ **Neil Bothwick**
"Tireless work getting/keeping Amiga users on-line with Wirenet."



❑ **Ben Vost**
"For his continued and dedicated support of Amiga users both in and outside his role within the Amiga press."



❑ **Chris Wiles**
"Basically for getting everyone on the Internet easily and bringing us together."

AAA Award Spain

❑ **Francisco Tapias**
"Por organizar la "Radykal Amiga Party 98" y conseguir que Petro Tyschtschenko asistiera por primera vez a una party en España."

❑ **SAUG**
"Por publicar "Amiga Channel", la única publicación en español dedicada al Amiga que se mantuvo al pie del cañón durante el año pasado."

❑ **Victor Garcia**
"Por costear con su dinero una WEB con dominio propio y dedicarlo al Amiga."

AAA Award Belgium

❑ **Digital Connect International (DCI)**
"DCI started selling Amiga in Belgium in 4Q98. It's great to see that a famous Belgian wholesaler's (which also owns different shops) is prepared to sell Amiga in a time of a small Amiga market."

❑ **Alexandre Thilmany**
"He started the ABML, Amiga Belgian Mailing List. This is the first Belgian mailing list where also French speaking Belgian people can be present."

❑ **Amiga Club Genk (ACG)**
"In this small Amiga market ACG manages to keep their user group quite big. They still have quite a lot of members, despite the fact they are present in only one area: Genk."

AAA Award Sweden

❑ **Vidamus Multimedia**
"För översättningen av FinalWriter97 till svenska. Program och manual är ambitiöst och väl översatta, och dessutom har man tagit fram en professionell svensk ordlista. En beundransvärd satsning!"

❑ **Christian Nylén** (SYSCOM)
"Gör sitt bästa för att få igång Amigan - och lyckats bättre än vad Syscom tidigare presterat. Är alltid trevlig och hjälpsam då kunder har frågor."

❑ **Stefan Burström**
"För sitt arbete med IBrowse och många andra Amiga-relaterade projekt. IBrowse deltog i grundläggandet av Amigan som Internet-dator, och är ett mycket uppskattat program bland användarna."

Neither the AAA Awards committee, their associates or partners will be responsible for the payment of any taxes, fees or charges (except delivery) incurred during delivery of the prize to the winner.

AAA Awards proudly presented in association with CLOANTO AMIGA

Name: ____________________

Address: ____________________

____________________ Country: __________

E-mail: ____________________

Phone: ____________________

Send in this form to any of the addresses mentioned in the article above. We need your vote before June 30!

Note: To be eligible for the prize drawing, you must cast a vote in the "AAA Award International" category and provide a valid email or phone number.

Other news

CYRIX TO CLOSE

National Semiconductor have announced that they will close its Cyrix division. National bought Cyrix, the manufacturer of x86-clone processors for PCs, in 1997 for $560 million, but did not expect the fierce competition that now exists in the low-end market from rivals like AMD and Intel's Celeron.

The company now plans to concentrate on building chips for "information appliances", such as set-top boxes and portable web-browsing devices.

MOTOROLA SELL-OFF

Motorola is to sell its Semiconductor Components Group for $1.6 billion. They have accepted an offer from a group of former employees who were financially backed by the Texas Pacific Group, a private investment firm. Motorola will hold a 10% share in the yet-to-be-named new company and will be providing support for the first year.

Motorola's semiconductor division produces components such as standard logic parts, power MOSFETs, opamps and a variety of digital and analogue discrete components. It currently has a 20% share of the market, second to Texas Instruments at 31%.

NINTENDO TO USE POWERPC

IBM have signed a $1 billion deal to supply Nintendo with PowerPC processors for its next-generation games console, codenamed Dolphin. Nintendo have opted for a 400MHz PPC derivative for the new machine, in preference to the MIPS processors used in its current range. A custom chip designed by ArtX Inc. and fabricated by NEC will provide the graphics engine.

Nintendo have also announced an agreement with Matsushita, who market in the UK under the Panasonic name, to leverage DVD technology for the new console.

IBM AND MOTOROLA STILL TALKING

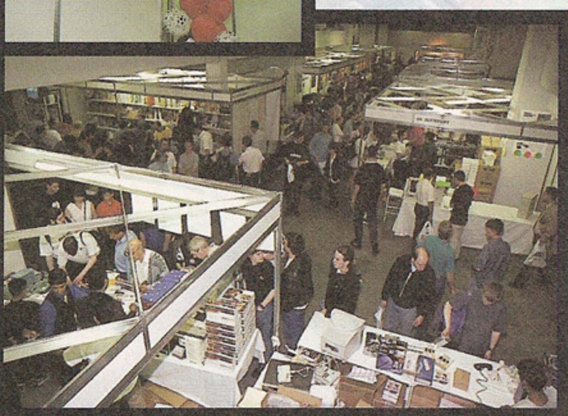
Despite their disagreements over Motorola's controversial Altivec extensions to the PowerPC architecture, IBM and Motorola are continuing their commitment to advance the PowerPC range. They have jointly announced the "Book E" project, a new architecture which will provide customers with greater consistency between both companies' embedded PPC solutions and better software compatibility with other members of the PPC family.

THE WORLD OF AMIGA '99

Kensington Town Hall (opposite Kensington tube station), London

July 24th and 25th, 1999



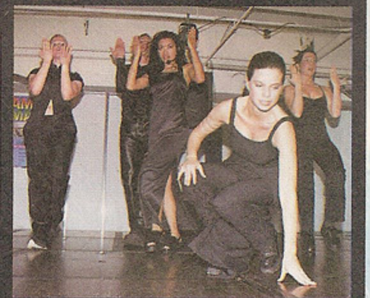


Come to Kensington Town Hall for this year's exciting World of Amiga show! Amiga Inc. will be there, as will a host of familiar Amiga dealers and developers. Try out the Internet in our Cybercafé, get gaming against other Amiga users, register Shareware there and then and loads, loads more!

The show is open from 10am-5pm Saturday and from 10am-4pm Sunday. Tickets cost £7.50 for adults and £5.00 for children.

☎ 01369 708004 for details.





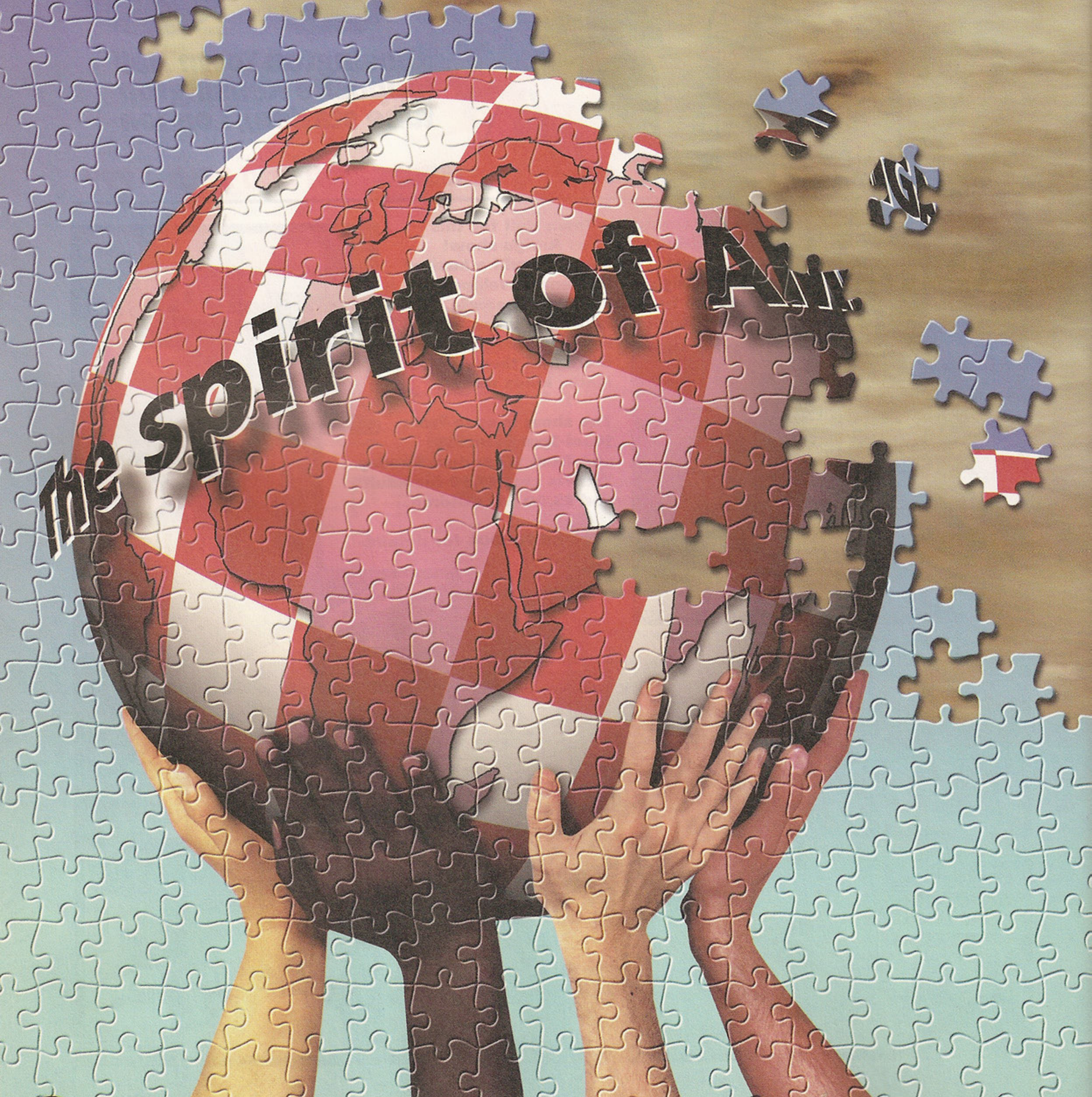






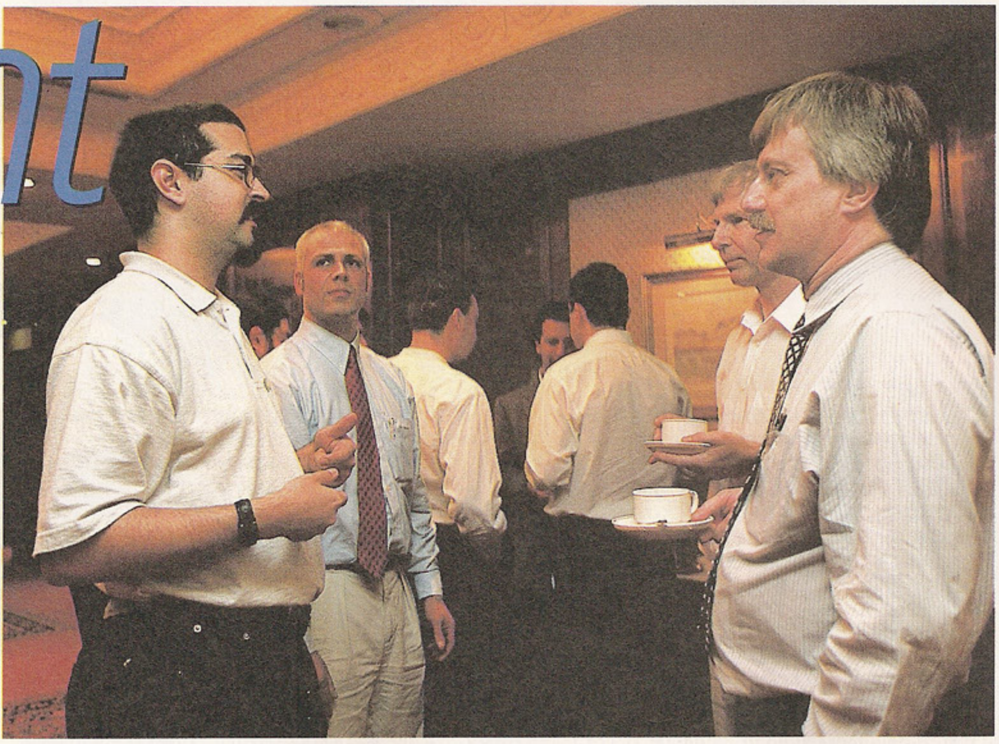
The future's

For two years *Amiga Inc*. haven't done much, but now they want to talk about their plans. **Ben Vost, Richard Drummond** and **Simon Goodwin** were on hand to lend an ear.



bright





Ben waxes lyrical to Dave Link of HiSoft and Alan Redhouse of Eyetech about Amiga Inc.'s new plans.

For some people, Gateway's lack of movement in the Amiga market was the last straw. However, a newly revitalised Amiga Inc., led by Jim Collas, were at the Radisson Edwardian hotel at Heathrow on April 30th this year to renew people's faith in the Amiga. Present were members of user groups, developers, dealers and members of the press. It wasn't what has traditionally been called a press conference since much of the material presented was of a sensitive nature, given to those who attended as a sign that although Amiga Inc. weren't willing to shout to all and sundry about their plans, they did indeed have some.

> "BeOS as an operating system doesn't concern me. They don't have any momentum and they aren't that exciting..."

There were actually two sessions: one for a small group of developers in the morning that we weren't privy to, and a more general meeting which took place after lunch. The meeting was further split into two halves, the first half of which was talking about the new Amiga. From the examples that Jim was giving of the new machine's power, it looks like the next five years should be a very exciting time for people. You'll notice I didn't say "Amiga owners", but that's mainly because of the fact that the new machine isn't going to be just another computer, and it may not even be recognisable as one. This isn't a cue to jump up and start decrying the set-top box, for that isn't really Amiga Inc.'s focus either. Suffice to say that, as Fleecy Moss pointed out in his feature last year on digital convergence (*AF116*), the future of appliances, rather than computers, is what's going to be fun for the next half-decade. Jim talked about things called "information appliances", which are a combination of your TV, a PDA (Personal Digital Assistant), a tablet thing for viewing the web and a lot more, gathered together in a transparent network that not only encompasses the house but your neighbourhood, your town and even the world – I can't wait for those .moon and .mars email addresses! This all sound pretty like science-fiction, but there's not a lot more we can say about it at this juncture and it really doesn't apply to your machine right now.

Disappointingly, there wasn't a glimpse of OS3.5 to be seen at this conference, even though the second half was devoted to bridging the gap

Continued overleaf ➡

CLASS ONE/CLASS TWO

The new machine will come in a single flavour, but Amiga Inc. are concerned that absolutely everyone should have at least a little bit of Amiga in them, so they've come up with two levels of Amiga compatibility. Class One compatibility means a rough and ready, able to communicate with, able to use peripherals intended for, kind of thing. Your machine will probably be able to run most Amiga software and it will sit happily in an Amiga network.

Class Two, on the other hand, will mean full-on, whizz-bang Amiga compatibility and will probably mean machines that are either built by Amiga Inc. or licensed by them. These machines will have full-on connectivity with Class One devices, but will offer so much more that there'll be no way you won't be impressed. The idea is that there will be people who don't want to leave Windows behind (more fool them), but do want access to what the Amiga promises. These people will probably be able to run a version of *AmigaSoft* (the new OS) that will give them access to this brave new world while keeping their shoddy Windows compatibility. In essence, it's likely that any classic Amiga will only have Class One compliance since Class Two will rely on an intermingling of custom hardware and software in much the same way that the current Amiga does.



Bet you wish you could see what we were looking at on the screen!



"Isn't that Ben Vost a nice chap?" "Ooh yes, he's lovely."

between the classic Amiga and the new generation of machines. This is obviously a lot more relevant to what current Amiga owners want to hear, and you could see everyone on the edges of their seats, concentrating on what Jim had to say on the topic. The good news is that those of you who've bought PowerPCs in the hope that they would represent the way forward haven't wasted your money. However, the rest of the picture isn't quite so clear. The PowerPC is going to be one of the platforms that the new OS, AmigaSoft, is going to be available on, and Amiga Inc. hope to be able to port it back to the Classic Amiga architecture. This should be made easier once a 68K emulation is in place, and will be helped along by DVD, USB and other such niceties that are taken for granted in a modern operating system.

Amiga Inc. haven't yet determined what sort of spec machine you'll need to have for it to work effectively as a "next generation" Amiga, but you can bet that PowerPC, CD-ROM and USB will feature pretty highly on the list of requirements, so saving for a new Amiga might not be the solution if you've already upgraded your machine to some extent. From what Jim said to me, it seems that the best thing you can do right now is keep on improving your current machine.

Amiga Format spoke to the man in charge of Amiga Inc., Jim Collas, about the changes of direction that Amiga Inc. are taking.



We were all ears as Jim Collas discussed the Amiga's future.

Why was the meeting so small?

JC: It's hard to have high-quality discussions with more than thirty people. We didn't want to merely be bombarded with questions from all sides without being able to answer them seriously and we thought the people we selected made up the best group of concerned and connected Amigans.

> "I firmly believe that the PC revolution is over and that the Amiga has the innovation to drive the next revolution."



Can you confirm that the PowerPC is the official next choice of processor for the Classic Amiga range?

JC: We will support the PowerPC on the next generation machine, on the next generation OS. We will be writing the system for several processors. What we still haven't decided is what the primary and optimised CPU will be.

Is it likely to be x86?

JC: It will definitely not be x86, that I'm sure of. There's no reason for it to be. We've talked about a development system that will be based on x86, but that's simply because there's a huge base of x86 machines. We want people out there to get ready to write the software for the target machine now, but of course the target machine will also be self-hosting and have its own development environment.

So we will be porting to the PowerPC, but it's unlikely to be the main processor because we're looking for something that's got a little more sizzle than stuff that's already out there. We're looking at the processors like Transmeta, Project X and Glaze 3D, but we're also thinking about PowerPC, MIPS and Alpha.

The point is that we want to come out with something really different. You wanted to know how we can be ready to launch a machine soon when something as central as the CPU hasn't been chosen? Well, the compilers that we're looking at are fairly flexible in terms of being able to compile down pretty quickly to different CPU types. *Java* and *C++* are the two main languages here so they're fairly portable and we're not too concerned about that.

You must admit that from a traditional development standpoint, six months to develop a machine seems like an incredibly short time.

JC: It is an incredibly short time if you were going to develop a machine that didn't use standards that exist. The one thing people need to understand is that there are now a lot of really good

AMIGA INC. RIP?

This is the last issue you'll see the company that owns the Amiga referred to as Amiga Inc. As it states in our interview with Jim Collas on these pages, he feels that the name "Amiga Inc." has too many bad connotations for a lot of the Amiga community, and in conjunction with their pulling further away from the parent company Gateway, he'd like a new name to go along with the severance of ties. As of now, they will be known simply as "Amiga", but as and when the severance is complete, the company will probably gain something in its name to differentiate it from the product it sells.



Petro and Jim look forward to the future of the Amiga.



The future of the Amiga, as presented by Jim Collas, looks very positive.

hardware standards that can be used, like PCI and USB, that really simplify your architecture. We're looking at the integration of a good video chip, a good CPU and multimedia-type capabilities built around standards like PCI, USB, Firewire and so on. What we'll wind up doing is picking components that we believe are fairly unique in hardware being designed today. For example, although everyone talks about PowerPCs, there are a lot of variations that aren't available publicly right now. We're not really concerned about hardware design; software is much more of a concern.

AF I'd heard that QNX started work on the Amiga OS before any agreement was actually reached.

JC: They really started working based on a handshake. If you think of what is required from a modern OS, they tend to be built up in layers. The kernel is something that QNX already has, but we had to sit down and define a set of APIs that need to be supported, like *OpenGL*. Well, that's something that QNX has already been looking at, and they think that's okay because they can always use it for other projects.

There are a lot of industry-standard APIs that need to be built in order for us to use the QNX operating system. What we've done is basically set out a road map for them of all the industry-standard APIs that they must have at a minimum. Then what we've done, on our side, is started to develop all the unique Amiga elements – the user interface elements that we talked about at the conference.

But all this stuff is fairly standard – you need these industry-standard APIs for the industry as a whole to take you seriously these days, and it isn't very exciting. What is exciting is the new

Jim Collas *Biography and Background*

My full name is James Paul Collas and I was born in 1960 near Los Angeles, California. My wife's name is Jamie and we have a five-and-a-half year old daughter named Chloe. Chloe loves the fact that I'm President of Amiga Inc. because we have a colourful ball as our logo. My picture on the cover of *Amazing Computing* magazine also amused her. My parents immigrated to the United States from Greece. I lived most of my life in the United States but spent seven years in Greece between the ages of 10 and 17.

I returned to the United States in 1977 and attended Webb School, which is a very formal college preparatory school in California. At Webb, I started taking life more seriously and became Chairman of our Honor Committee, student body president and captain of our soccer team.

I attended the University of California in Los Angeles (UCLA), majoring in Electrical and Computer Engineering. While I was in college I held my first job in 1982, programming video games for a small S/W development contracting company. I programmed games for the Atari 2600, Commodore 64 and TI 99/4. The one I most enjoyed programming was a *Star Trek* game for the Texas Instruments 99/4 PC. The game was developed under contract for Texas Instruments.

I got a very early glimpse of the Amiga in 1984 when we were given one of the wire-wrap prototypes to evaluate. This prototype was very impressive given that the whole Amiga computer was implemented on four or five wire-wrap breadboards using discrete logic components. My S/W engineering colleagues and I were given about a week to play around with it. By the end of the week we had all concluded that it was truly an amazing computer.

In order to test out the architecture I programmed the simulation of a vehicle travelling over a textured globe. Unfortunately, the company I was working for didn't get the contract so I didn't get an opportunity to program a full game for the Amiga. By the time the production version of the Amiga shipped I was focusing more on hardware design. The first hardware design I worked on was an accelerator card for the Apple II. This accelerator card consisted of a 4MHz 6502 with a 4K cache circuit and it significantly increased the performance of the standard 1MHz 6502 computer.

When I graduated from college I started my own company and developed a graphics board and colour display for the Apple Macintosh. I was a good engineer and the product was impressive but I had no experience in marketing and very little funds so the company failed. In late 1984 I took a job with General Dynamics to develop advanced computers for weapons systems used by the United States government. I took this job because the productivity expectations are low on government contracts; therefore, I could excel at my job while only working 40 hours a week.

This allowed me enough free time to once again start my own company at night and on the weekends. For this venture I developed, marketed and sold a logic analyser plug-in board for the PC. This product and company was successful so I quit my job with General Dynamics in 1987 to run my company full time. The company was called Anigma, which means 'opening' or 'opportunity' in Greek, and I was the President. Someone at the Amiga St. Louis show last month pointed out to me that "Anigma" is an anagram for "Amigan" and that this was a



sign that my opportunity with Amiga was predestined. It's an interesting observation but I don't believe much in fate.

At Anigma we ended up designing hardware for the PC industry. I know that this is a terrible thing in the eyes of the Amiga community but I was still relatively young and naïve. Between 1987 and 1992, Anigma designed over 50 products for many large PC companies, including Intel, Packard Bell, AT&T, Gateway, Hewlett Packard, Zeos and Tandy. Anigma designed full systems, system boards and chip level parts. The last product that I personally designed was a 486 EISA system board including a custom DRAM and cache controller.

In May 1992 we were doing a lot of work for Gateway and Ted Waitt approached me about joining Gateway to take over their engineering department. We reached an agreement in which Gateway purchased my equity position in Anigma. Out of all the PC companies that I'd worked with while running Anigma, Gateway were the most impressive. What attracted me most was the spirit and culture. Although it was already a $1 billion company when I joined, it was still relatively young and a bit rebellious. I joined Gateway as a Director of Engineering and advanced to my final position as Senior Vice-President in charge of all products worldwide.

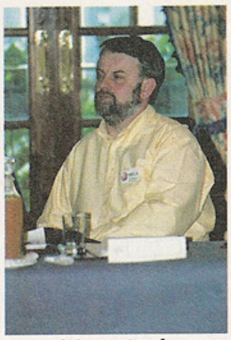
I'm mostly driven by my desire to bring out innovative and revolutionary products that can significantly change the way people live. Although I held a prominent position at Gateway, I became frustrated with the lack of innovation in the PC industry. Innovation in the PC industry is stifled by the control that Microsoft exerts.

I realised that the PC revolution was over but there was a looming computer revolution on the horizon. This revolution must occur in order for computers to get to the next level of penetration in the world. It will create new and innovative computers that are powerful, flexible and very impressive, but also truly revolutionary in their ease of use.

I don't believe that large bureaucratic corporations can drive an industry revolution of this type. It will take small, innovative companies that have passionate employees and supporters, just like the companies that sparked the original computer revolution or the recent Internet revolution. Late last year, I realised a company like Amiga Inc. would be required to drive this next computer revolution. The spirit of Amiga stands for revolutionary innovation and passion. I can only thank the Amiga community for keeping this spirit alive for so long. At Gateway, I could continue to be successful but I couldn't drive the next computer revolution, and this is why I left Gateway to join Amiga Inc.

Continued overleaf ➡







Users were represented by AmigaSoc, Neil Bothwick looks pensive and Petro explains to Ian from White Knight Technology why the new machine can be folded up.

powerful software structure and overall environment that integrates multiple computers in the house in such a way that will be revolutionary – that's what we've been working on. (*Jim talked at length about this at the Friday conference but he has asked that* Amiga Format *don't repeat it just yet. Believe me, it will be very exciting!*)

There are a lot of hardware developments right now for the Classic Amiga, like USB and DVD, that mean it's even more imperative to have some kind of crossover between the machines. The stuff about the new machine is very exciting, but it doesn't help anyone in the current market.

JC: The challenge that we have is the bridge between the old and the new, and coming out of the meeting it seems clear to me that we have to look at porting elements of the new OS back into the Classic Amiga. When we come out with OS3.5 we want to put down a recommended configuration, including a PowerPC that will allow you to not only get the best from OS3.5, but it will give you the opportunity to run AmigaSoft, and look towards the future.

We're working very hard to define exactly how much of that environment we can port back. We're going to get Haage & Partner, phase 5 and our engineering department to get together and map out what's feasible.

> Bill Gates said he wanted Windows on every desktop; we say fine, let him. We want Amigas in every home…



What is Amiga Inc.'s position on the Classic Amiga? Will it be officially dead when the new machine appears, or will development for it continue?

JC: I think that there's still a lot of life left in the Classic Amiga. While we haven't definitely decided to do an OS3.6, 3.7 or whatever, we certainly haven't ruled them out.

How do you see the Current Amiga market developing over the next year?

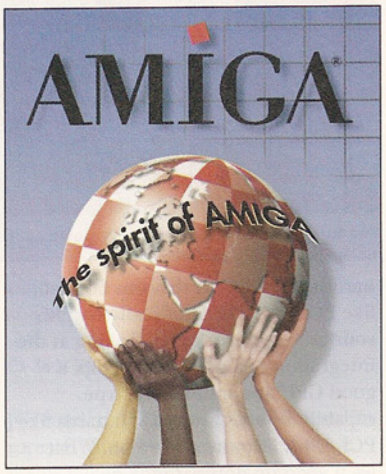
JC: Well, if people are upgrading their machines now to take OS3.5, use a PowerPC, graphics card and so on, and because we're porting the new environment back to the Classic range, I figure the current Amiga still has at least two years of useful life left in it. Of course, we'll have a new machine ready in six months, and perhaps a year after that there will be a machine to replace stuff that people are doing with their Amigas now, and I think that's a fairly natural cycle of things.

We'll still see people adding to their current machines for the next year or so. When these new machines come out we might see a decline in the Classic Amiga, but there'll always be people for whom it's an ideal solution, and people will be able to use parts of their current machines with the new Amiga anyway.

How can Amiga Inc. not have decided on a specific chipset if they plan to have a new machine ready in six months' time?



Jim explains that his physique is mainly due to a serious exercise regime with his bullworker.



The new Amiga poster.

JC: I know a lot of hardware designers. Because of my Gateway contacts, I probably have about 200 excellent hardware engineers at my fingertips. We can turn things on and move extremely quickly, and of course we do have a lot of the architecture already designed thanks to the industry-standard components.

Do you think that Amiga Inc. can move that fast? A lot of people say the Amiga market moves so slowly compared to the PC market.

JC: That won't be a problem.

But by the same count, you don't want people to be caught in the PC trap of having to upgrade every six months?

JC: No, that's something we definitely don't want. Part of the problem with the PC market is that as Windows has grown, it has grown more inefficient and has needed faster and faster hardware to run on, prompting this cycle. We want to do things differently.

Bill Gates said he wanted Windows on every desktop; we say fine, let him. We want Amigas in every home, and although, sure, there'll be new developments and improvements, we don't want to make people need to buy them all the time.

What we really want is just 10-20% of market share in this new space of information appliances, which is predicted for somewhere in the region

of 200,000,000 units in the next five years. We're not talking about desktop machines here, but we are talking about 30,000,000 units a year. We will obviously continue to develop our products and the technology, but at the right rate, the rate at which we're focused on features and functionality, not just MHz and gigabytes.

Can you give any details about a possible chipset shortlist, such as which processors people should get ready for writing for?

JC: The shortlist is PowerPC, MIPS, Alpha, Transmeta, Project X and Glaze 3D, but that's not really so important. If you're writing in *Java* or *C++*, the processor itself is almost irrelevant.

How secure do you feel about competition like BeOS, Linux and Microsoft? They may not currently offer the things you showed us for AmigaSoft, but how likely do you think it is that they'll come up with these ideas in short order?

JC: BeOS as an operating system doesn't concern me. They don't have any momentum and they aren't that exciting – they're just another OS. As for Microsoft, I think they're going to have a hard time getting into this new space – there's a lot of resistance to them doing that, and they're already having problems getting Windows2000 out.

Their stuff has got incredibly inefficient and they're kind of in a Catch 22 situation. They have to leave all their baggage behind in order to have something to offer the new environment, but if they do that they lose everything they now have. WinCE is what they're saying is going to address these new markets, but it's not exactly that impressive.

Interestingly, Linux is actually probably our biggest concern, although I don't think of it as a competitor. It's a concern in the sense that it has a huge amount of market mind-share. However, because you can compile Linux source code to run under QNX,

"As for Microsoft, I think they're going to have a hard time getting into this new space – there's a lot of resistance..."



since they are very similar, I view Linux as almost a friendly cousin, momentum that we can actually leverage to our advantage rather than as a threat. It can be Class One-compatible in that some of the things we've planned for AmigaSoft will also be able to run under Linux, but to be Class Two compatible you need to be using the OS it was originally targeted for – AmigaSoft.

Linux will be successful but I don't know if it will come into consumer space. There are obviously lots of challenges from other platforms, but our stuff will definitely be compelling enough to make the difference.

Gateway have owned the Amiga for two years now but nothing's happened. Why is this?

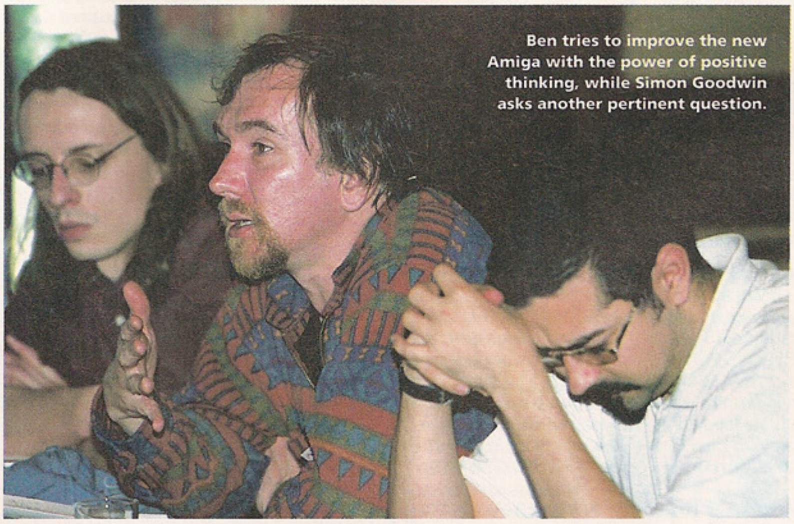
JC: The biggest problem with large companies is getting them to focus on what you consider important, especially when it's a relatively small project in comparison to some of the others. Amiga Inc. just didn't get the priority or focus, so four or five months ago I went into Ted Waitt's office and said, "Ted, on the Amiga thing, we should either do it right or we should shut it down, but keeping this community in flux, and what we've done over the last two years, is not acceptable."

Of course, I was very interested in the Amiga at that time because I firmly believe that the PC revolution is over and that the Amiga had the great grassroots community, innovation and vision to drive the next revolution.

What we've done over the last three months is break Amiga Inc. away from Gateway, which we hope to do fully and with enough financial backing at some point this year. We hope that for the first time ever, the Amiga parent company will be autonomous *and* well-funded (laughs).

Why do you want to do away with the "Inc." part of the name? At least it offered a boundary between the company and the machine and didn't confuse people.

JC: There's a lot of negative feeling about the name Amiga Inc, especially in the last year with the definition of Amiga Inc. and Amiga International, Inc. and people were getting confused. We'll probably end up giving it a full name soon enough.



Ben tries to improve the new Amiga with the power of positive thinking, while Simon Goodwin asks another pertinent question.

VIEWPOINT: SIMON GOODWIN

I can foresee new Amigas selling millions as appliance-integration devices, and being a lot of fun too. PCs could *never* do that, and billions will yet be spent to prove it. The experience of Amiga developers in real-time, user-orientated solutions will be essential to make the new systems a success. Jim Collas needs us as much as we need him, and he realises that. As an Amiga developer, I needed to be impressed and I was.

Jim Collas and Dan Dodge have the skill and connections to take Amigas further, without compromising the original vision. The move to QNX makes good sense – it's more Amiga-like than could be expected from a replacement operating system. Key differences like networking, virtual memory and message copying absolutely had to be reworked for future systems. The general idea of doing things once, correctly, and then sharing the benefit, is pure Amiga, and so are many of the basic ideas.

Jim Collas stressed the 'passion' of Amiga enthusiasts. The Amiga is a culture, more than just a chipset or an operating system, and we discussed how to make the Amiga fashionable again, turning it back from a cult object to something generally recognised as 'cool'.

VIEWPOINT: RICHARD DRUMMOND

Looking back on this conference, my first thoughts are on how much I enjoyed it. Not only did Jim Collas put on an outstandingly superb show, I got to meet lots of friends from my *CU* days in the flesh for the first time in nine months.

I can't say that I came away from the conference knowing much more than I did when I went in, but it certainly gave me a bit more faith and optimism about the Amiga's future. Jim's confidence and passion visibly affected everybody in the room. Whether Amiga Inc. ever manage to pull off these plans, and indeed whether I'll actually want to buy a next generation Amiga if they do, who knows? What I do know is that the Amiga vision offers a way to lift the great, dark Wintel cloud from the computer market and make owning a home computer fun again. May we live in interesting times!

EYELINE

Bringing you the latest Amiga News from Eyetech
http://welcome.to/amiga.world

Latest News in Brief

EYETECH AT THE WORLD OF AMIGA '99

The World of Amiga '99 has finally been fixed for 24-25 July in London and - of course - Eyetech will be there.

However . . . it's a long way from North Yorkshire to London - so there is obviously a limit to the range and quantity of our product range that we will be able to bring with us to the show. So, if there are particular products you would like to buy - or just see demonstrated - please ring, write or email with your requests and we will do our best to meet them.

EZLINK - Home Automation from your Amiga

The ultimate interface for your A1200.

Control your Amiga using a TV etc remote control!

Control your infrared-enabled appliances from your Amiga!

EZLink is a unique interface for any WB2.04+ Amiga. Plugging into the joystick port via a short cable, the EZLink box translates infrared remote control signals into AREXX commands for controlling your Amiga - or optionally into signals that emulate an Amiga mouse or joystick. This means that you can use your remote control to - for example - control a SCALA presentation, control a CDROM player, take picture with a digital camera connected to your Amiga etc. You can also use programs running on your Amiga to control other infrared-enabled appliances - such as TVs, video recorders, light dimmers etc.

The price for this remarkable interface - just £29.95 including software.

Suitable remote control handsets are also available for just £9.95.

SCALA MM400 CD now available & in stock



The best multimedia presentation software for the Amiga -SCALA MM400 - is now available on CD ex-stock from Eyetech. MM400 contains many more features than MM300 (distributed free with HD Magic Packs and as a CU Amiga coverdisk) making it even faster to create slick commercial presentations. The CD also contains 130mb of colourfonts, additional backgrounds, sample presentations and a full interactive manual on CD.

Scala MM400 is just £59.95. Upgrades from MM300 are just £39.95 (coverdisk or proof of purchase required).

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Amiga Internet Packages at 33% discount whilst stocks last

If you're not yet on the Net there couldn't be a better - or cheaper time to get connected. We are offering the superb Internet Connection package above, the acclaimed NetConnect 2.2 internet software suite and a 56K V90 external voice/data/fax modem with cables and PSU for a special price of just £99.95 - saving over £50 on the individual component prices!

Turboprint 7 u/g to 7.04 available from Eyetech

A significant update to Turboprint 7 has been released by Irseesoft taking the program to version 7.04. This fixes several bugs in drivers and GfxPublisher, and new printer drivers for HP880 and HP895. The update program is now being shipped with all copies of TB7 sold by Eyetech. It is also available for download from Irseesoft's web site at **www.irseesoft.com**, or from Eyetech on floppy disk. **If you wish to obtain a copy from us you can order the upgrade by post or phone for £5 + carriage - code DVR-TB7-704UD.**

Eyeline Direct - a monthly Amiga newsletter delivered to your door for just £6* per year!

Issue 2 is out now and includes a complete guide to A1200 motherboard/chipset revisions, technical tips from our own workshops and special offers only open to Eyeline Direct subscribers.

Just ring, write or fax the Eyetech sales team to place your order.

* UK only. EC add £3.00, Worldwide add £6.00

FIVE NEW PRE-CONFIGURED MK4 EZ-TOWER MAGIC PACK SYSTEMS

Although the basic Amiga International desktop console Magic Pack still represents excellent value for money (see the box-out below) more and more customers have been asking us for new Amiga 1200s which are already EZTowered up. So here they are, five pre-configured systems to suit different applicants and budgets. All systems come with brand new KS 3.1/WB 3.1 disk and manuals, mouse, 2mb graphics memory and a fantastic productivity software bundle including Wordworth 4SE, Turbocalc 3.5, Datastore 1.1, Photogenics 1.2SE, Personal Paint 6.4, Organiser 1.1, & Pinball Mania & Whizz games. Hard drive versions also come with Scala MM300 preinstalled

A1200T-LE (A1200 T - Light Edition)

This is the best choice for existing A1200 users who want to upgrade to a new Workbench 3.1 machine and add their existing hard hard drives and other peripherals and accessories themselves.

A1200T-PS4 (A1200 ProSystem-4)

The A1200 Professional System 4 comes complete and ready-to-run with 3.2GB hardware, 24-speed CDROM, EZCD-XL buffered interface, '030/40 accelerator with MMU, FPU, 8mb and a CDDA/Amiga audio mixer output. Other options available - see table on the right.

A1200T-PS4/XL (A1200T ProSystem-4 XL

This system is configured as for the A1200T-PS4 but with a faster CDROM and an 040/28mhz accelerator with FPU, MMU, 16mb memory and a pair of mains-powered 240w PMPO stereo speakers.

A1200T-SE (A1200 T - Studio Edition)

This is the system for serious Amiga-based multimedia work. It is configured as the A1200T/PS/4XLS but comes with an LS120 drive (reads & writes 1.44 PC diskettes & 120MB Amiga/PC cartridges), an EZVGA scandoubler/flickerfixer and a 15" SVGA digital monitor.

A1200T-SE/XL (A1200T - Studio Edition XL)

This is the ultimate A1200 multimedia tower system. It is s configured as the A1200-SE system above and uprated to include a CDReWriter with MakeCD software and 10 blank CD-recordable disks, a 4.3GB hard drive, an 060/66 accelerator with 32mb memory, a 17" digital SVGA monitor, a Prelude 1200TW full duplex hi-fi sound card and software and a 600 watt PMPO amplified sound system with stereo speakers and subwoofer.

System Components A1200T -	LE	PS4	PS4/XL	SE	SE/XL
Mk4 EZTower	Yes	Yes	Yes	Yes	Yes
PC keyboard & keyboard adapter	Yes	Yes	Yes	Yes	Yes
Upgrade to A4000 k/b and k/b adapter	+£20	+£20	+£20	+£20	+£20
A1200 motherboard with K/S 3.1/WB3.1	Yes	Yes	Yes	Yes	Yes
Sony floppy drive & EZDF0 interface	Yes	Yes	Yes	Yes	Yes
Magic Pack productivity software + 2 games	Yes	Yes	Yes	Yes	Yes
Upgradeable to full EZPC Tower system	Yes	Yes	Yes	Yes	Yes
Scala MM300 multimedia software	n/a	Yes	Yes	Yes	Yes
EZCD-XL 4-device buffered interface	n/a	Yes	Yes	Yes	Yes
EZTower CD audio/Amiga audio mixer	n/a	Yes	Yes	Yes	Yes
3.2GB Tower drive wit WB3.1 installed	n/a	Yes	Yes	Yes	n/a
4.2GB Tower drive with WB3.1 installed	n/a	+£20	+£20	+£20	Yes
LS120 with 1 cartridge & EZIDE s/w	n/a	+£80	+£80	Yes	n/a
CDRom / CDReWriter + 10 gold disks	n/a	24x	32x	32x	CDRW+GD
1230/40 MMU FPU accelerator - 8 MIPS	n/a	Yes	n/a	n/a	n/a
1240/28 MMU FPU accelerator - 21 MIPS	n/a	+£60	Yes	Yes	n/a
1240/40SE MMU FPU accelerator - 30 MIPS	n/a	+£100	+£40	+£40	n/a
1260/66 MMU FPU accelerator - 51 MIPS	n/a	+£250	+£185	+£185	Yes
Memory included (ring for upgrade prices)	n/a	8MB	16MB	16MB	32MB
EZVGA scandoubler with flickerfixer	n/a	+£80	+£80	Yes	Yes
15" SVGA monitor	n/a	+£110	+£110	Yes	n/a
17" SVGA monitor	n/a	+£190	+£190	+£75	Yes
Prelude1200TW hifi full duplex sound card	n/a	+£140	+£140	+£140	Yes
Amplifier (PMPO watts), speakers (+ subwoofer)n/a	n/a	240W	240W	600W+SW	
Cost with options as specified:	£299.95	£549.95	£669.95	£999.95	£1799.95

If you don't have the need or the space for an A1200 Tower System then we can still supply brand new A1200 desktop console Magic Packs - either floppy drive only, or upgraded to a 170mb hard drive, EZCD-XL buffered interface and external CDROM socket.

A1200 diskette desktop console Magic Pack - £179.95 • A1200 170MB HD desktop console Magic Pack - £248.95

LIMITED STOCKS OF THE MINOLTA DIMAGE-V CAMERA NOW AVAILABLE

If you are considering getting a digital camera, this is a truly an opportunity not to be missed. The Dimage-V from Minolta is a superbly engineered camera in an aluminium shell case with precision Minolta optics. It is not at all comparable with the low-end digital cameras from Casio, Mustek, etc., generally on offer within the same price bracket.

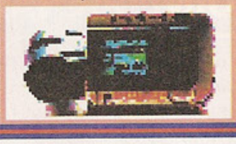
The retail price of the Dimage-V was over £800 just a few months ago, but we have made a special purchase which allows us to offer this camera to you at **just £259.95** - including the acclaimed CamControl software for the Amiga. The camera itself features:

- Swivelling 2.7x Minolta optical zoom lens with macro focussing to 5cm
- Removable smart-media card storing up to 60 images in JPeg format on the 2mb card supplied
- Auto-exposure flash, with daylight fill-in function
- LCD display for framing and replaying pictures
- Bi-directional serial interface for picture downloading, and the taking of pictures under computer control (ideal for webcam applications)
- 1m lens extension cable, so the lens can be mounted remotely from the camera for close-up or web-cam/surveillance work
- Truly pocketable size at 130x65x40mm (including zoom lens) and comes complete with soft carrying pouch and wrist straps
- Runs on 4 x AA batteries or from the mains PSU included
- Amiga, PC and Macintosh software included
- Full 12 months return-to-base Minolta UK warranty

The version of CamControl software supplied allows you to take, download, rotate and delete pictures under computer control - either directly from the CamControl software or, via AREXX, from image manipulation and art packages such as DPaint 5, PP7, ADPro etc.

Stocks are strictly limited at this price - so if you are considering taking up this offer - don't delay, act today to avoid being disappointed.

Accessories include additional 2mb smart media cards for just £14.95 at the time of ordering the camera (normally £19.95) and a pack of 40 alkaline batteries costs just £19.95 at the time of ordering the camera (normally £24.95).



Mail Order 9am to 6pm 01642-713185

Portable printers from Fujitsu from just £39.9

We have managed to obtain limited stocks of portable printers by Fujitsu. T size is just 30x21x2.5cm (11.7"x8.3"x1") when packed in their transport wa and 30x10.5x5cm (WxHxD) when in use.

The printer uses a near-silent thermal printhead, which can either use a th mal ribbon for printing in high quality onto plain paper, or, for economical dr printing, it will print directly on to low cost thermal fax paper.

It comes complete with a thermal print ribbon, a 100-240v PSU adapter (sta dard IEC 'kettle lead' required), manual and built-in Epson Q and Proprin 24xe emulators (which are supported by Workbench and Turboprint printer d vers). In addition the printer can be operated from an optional (Camcorder-ty Ni-Cd rechargeable battery pack. These are very well engineered units a come with a 12 month return-to-base warranty (excluding printhead and co sumables). **Our price is just £49.95 whilst stocks last**

Other accessories are available as follows:

- ❑ Thermal ribbon cartridges £4.95
- ❑ 6v, 1200mA rechargeable battery pack £14.95
- ❑ Thermal fax paper - per 100ft roll, 8.5" wide £4.95
- ❑ IEC AC mains 'kettle lead' £2.50
- ❑ All-pins-connected printer cable £9.95



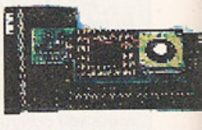
Printer set up ready for us showing carrying case & P

Limited Edition 1260/75LC 60 MIPS Accelerator

Exclusively available from Eyetech - at a price lower than that of the 1260/66!

The fastest 680x0 accelerator for any Amiga is now available (exclusive from Eyetech. Rated by Sysinfo at around 60 MIPS the accelerator is su able for both desktop and towered A1200s. The integer processing speed the 75MHz 060 is - in Simon Goodwin's words - 'awesome', being up 2200% faster than that of an an 030/50! A.I. recommend an '060 process to get the most out of OS 3.5 - see separate news story below.

The 1260/75 LC comes with a full MMU but no FPU as no internal or ext nal Motorola FPU module will work at these speeds . As most Amiga so ware is supplied with non-MMU versions, these should still easily out-perform the FPU versions on a lesser processor in all but a handful of cases. And now for the best news of all. You can have the fastest O/S-compliant Amiga on the planet for just £299.95!



OS 3.5 UPGRADE

OS 3.5 is on track for delivery in a few months time, so now is the time to start preparing your A1200 to be OS 3.5-ready. We will be shipping OS 3.5 (estimated price £34.95) from the date of its official release. Why not place an advanced order to ensure you get your copy at the earliest opportunity? Amiga Inc recommend the following configurations:

For 'acceptable' performance:

'030 accelerator	ACC-030-40-1S	£59.95
Scandoubler/Flickerfixer	EZVGA range	from £48.95
Modem	MOD-56K 56K	£69.95

You will also need:

3.1 ROMs	SYS-KS31-ROM	£29.95
. . . or SYS-KS31-MPUG (w/3.1 disks and MP s/w)		£49.95

To take full advantage of OS 3.5:

'060 Accelerator	ACC-060-50	£267.95
16-bit sound card	ADPT-AUD-PL12-DT	£129.95
I/O Accelerator	INT-SER-PTJR	£39.95

The ideal way to update your Commodore A1200



Magic Upgrade Pack

3.1 Kickstart ROMs, Photogenics 1.2S 3.1 Workbench (6 disks), Personal Pai 6.4, Wordworth 4.1SE, Organiser 1.1 Turbocalc 3.5, Pinball Mania & Whizz Datastore 1.1Workbench 3.1 manuals Magic Pack Application s/w manuals .all for just £49.95!!

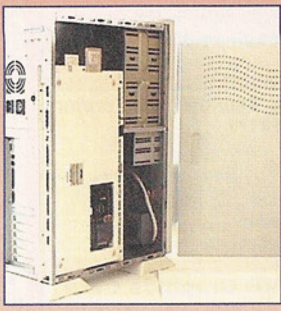
EZPC-PRO & NEW ENTRY-LEVEL EXPANSION SYSTEMS FOR YOUR A1200

3 pre-configured EZPC-Pro systems to suit different applications and pockets

e EZPC system works by making the PC motherboard act as a slave processor to your A1200 - look- after the the operation of the systems accessories whilst you and your Amiga get on with creative rk. (You can of course use the PC as a computer in its own right if you really insist!)

also important to understand that EZPC A1200 expansion system is based on a real Amiga and is t at all comparable with other PC-only systems running a clever, but slow, Amiga emulator as a PC plication.

act there are such a range of applications that the EZPC system can open up to an Amiga user that have introduced three systems pre-configured for different types of use. These are:



The EZPC Tower system showing the A1200, the PC rear sockets, card slots and removable side panels

200 EZ-PC TOWER-HSE (Home Studio Edition). £999.95

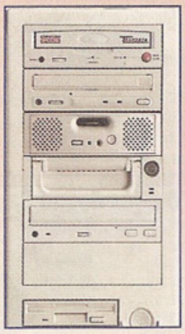
e HSE configuration comes complete with TV tuner with cut- d-paste teletext facilities, 24-bit video frame grabber and video capture card, 30 bit colour scanner, 56K modem and unlimit- internet access at local call rates - as well as the standard PC system components

200 EZPC TOWER-DVE (Digital Video Edition). £1369.95

e DVE is fitted with a purpose-designed, hardware-based PEG non-linear video editing suite for home/semi-profession- video production. It also comes with built-in CD Writer/ReWriter th drag-and-drop CD writing software) for producing your own dio and video CDs.

200 EZPC TOWER-XLS. £1995.95

is must be the ultimate creative multimedia expansion plat- m for your A1200. It comes equipped with non-linear video ting hardware and software, A4 30-bit flatbed scanner, DVD M hardware & MPEG 2 decoder (for DVD video playback), ReWritable drive, 15" Colour Monitor, 56k data/fax/voice dem with voicemail and internet software - and much more.



200 EZPC TOWER-3.1+. £395.95

ally, if your A1200 is feeling a bit tired we can supply your chosen EZPC wer system with a brand new Kickstart 3.1 A1200, complete with Magic ck software, 24 Speed CDROM, 3.2 GB hard drive (with W/b & Magic Pack tware preinstalled), EZCD Mk4 interface and EZIDE software ready talled and connected up. All you need to do is to slot in your existing accel- ator, fit your old hard drive into the external mounting drawer provided (see oto) switch on and start using your new A1200 EZPC Tower system.

these three packs are designed for you to fit your existing A1200 in the PC Tower and connect it up. This normally takes around an hour, but if you uld prefer to receive your system ready to use, we can arrange to collect ur Amiga, do the work for you and ship your new system back all ready to g-in to mains and phone outlets! Please ring for details.

EZPC-Pro Tower Model	HSE	DVE	XLS
EZPC-Tower/250W psu/PC mouse/HD floppy	Yes	Yes	Yes
EZ-Key k/b adapter PC k/b & rem switch	Yes	Yes	Yes
Ultra DMA hard drive 4.2GB	Yes	Yes	Yes
Upgrade to 17.2GB UDMA Drive	+£199.95	+£199.95	+£199.95
32-speed CDROM	Yes	Yes	n/a
DVD-ROM(inc 20xCDROM capability)	n/a	+£79.95u/g	Yes
CDReWriter(inc 6xCDROM) & s/w	n/a	Yes	Yes
10 x blank CDR's 650MB	n/a	Yes	Yes
100Mhz bus PC motherboard w/64MB	Yes	Yes	Yes
High perf high res 3D Gfx card w/MPEG-1	Yes	Yes	Yes
TV/teletext/framegrabber	Yes	n/a	n/a
Hardware MJPEG Video Editor	n/a	Yes	Yes
Hardware MPEG-2 Video decoder	n/a	+£59.95	Yes
CD-quality sound card with MIDI	Yes	Yes	Yes
Software controlled Amiga/PC audio mixer	Yes	Yes	Yes
Internal 60W PMPO monitor speakers	Yes	Yes	Yes
Siamese RTG2.5 software	Yes	Yes	Yes
Amiga PCMCIA & PC ethernet cards/cabs	Yes	Yes	Yes
30-bit high res A4 flatbed scanner	Yes	+£59.95	Yes
Internal 56k data/fax/voice modem	Yes	+£49.95	Yes
Unlimited access Internet package	Yes	+£49.95	+£49.95
15" SVGA monitor	+£109.95	+£109.95	Yes
17" SVGA monitor	+£189.95	+£189.95	+£99.95
Win 9.x/Lotus Smartsuite bundle	+£99.95	+£99.95	Yes
Miami Amiga TCP/IP stack	+£24.95	+£24.95	Yes
Cost with options as specified	£999.95	£1369.95	£1999.95



ENTRY LEVEL EZPC TOWER SYSTEMS NOW AVAILABLE FROM JUST £599.95

UPGRADE PACKS FOR EXISTING EZTOWER USERS JUST £499.95

The EZPC-Pro Tower configurations (featured on the next page) have produced a tremendous level of interest - and orders - from professional and serious home Amiga users alike. We have also had many requests for a lower cost, entry level solution, from those Amiga users whose budget is more modest. So here it is - the EZPC-SLE - giving most of the potential of the EZPC-Pro systems (featured opposite) in an affordable (but expansible) package.

The EZPC-SLE specification is as follows:

- ✔ Full EZTower Mk4 with removable side panels & 250w PSU (not with upgrade kit)
- ✔ 100MHz-bus motherboard with 4x UDMA IDE ports
- ✔ 2 x high speed serial & 1 x EPP parallel port
- ✔ 8MB SVGA SIS Graphics
- ✔ 3.2GB UDMA hard drive
- ✔ PC mouse
- ✔ PC Keyboard & EZKey-SE/PC keyboard adapter (not with upgrade kit)
- ✔ 333M II CPU with 1MB cache memory
- ✔ 32MB 100MHz memory
- ✔ 16 bit 3D sound record and playback
- ✔ 24 speed CDROM
- ✔ Remote Amiga/PC keyboard switch
- ✔ Siamese 2.1 RTG serial Amiga-PC networking software and cable.
- ✔ TV/Teletext tuner with 24-bit still & video capture and Amiga composite video input
- ✔ EZVGA-INSD internal scandoubler and BMon switch to display your Amiga output on a PC screen

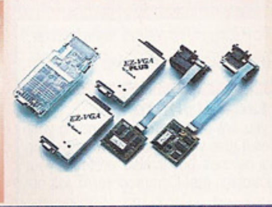
You will also need to have Windows 9x operating system and an SVGA PC monitor - see the panel on the EZPC-Pro Tower system panel for further information.

A collection, installation and delivery service is also available - please ring for details.

EZVGA Scandoublers & Flickerfixers from just £48.95

scandoublers/flickerfixers allow the Amigas 15Khz modes to display on a PC SVGA onitor. Flickerfixers allow 15KHz interlaced screens to be displayed, rock-steady, at ice the standard vertical resolution. Other modes are passed through unaltered.

VGA-Mk2	Compact, external, upgradeable scandoubler (to full FF)	£69.95
VGA-Plus	Compact, external scandoubler with full FF	£99.95
VGA-SEFF	Economy external scandoubler with full FF	£89.95
VGA-INSD	Internal A1200/A4000 scandoubler (not upgradeable)	£48.95
VGA-INFF	Internal A1200/A4000 scandoubler with full FF	£79.95
VGA-INFF2	Internal A1200/A4000 s/doubler with full FF for BMON	£89.95



AMIGA SVGA MONITORS

For use with Amiga Zorro & the new PPC Graphics Cards, Scandoublers & the EZPC-Tower system



Special pricing on scandoublers/flickerfixers bought with monitors from just £45 extra
Monitor specifications are quoted as the highest vertical refresh rate at the maximum resolution. Higher refresh rates (>=72Hz) at lower resolutions are available and give a more visually relaxing display.
Scandoubler/flickerfixers have resolutions governed by the Amiga's AA/AGA chipset and are restricted to a maximum vertical refresh of 73Hz and a maximum usable resolution of 724Hx566V.
The PPC BVision supports 1600x1280@72Hz. You will not gain the full benefit of this superb graphics card without a monitor that supports this resolution at that refresh rate.

14" SVGA 0.28DP, 1024Hx768V @ 60Hz £89.95
15" SVGA 0.28DP, 1024Hx768V @ 60Hz £119.95
17" SVGA 0.28DP, 1280Hx1024V @ 60Hz £199.95
Engineering workstation grade monitor, 160MHz, Diamondtron tube:
17" SVGA 0.25DP, 1600Hx1280V @ 75Hz £399.95
SPECIAL OFFER 17" MONITORS FROM £99.95 - ring for details

6 models of BMON are available from £39.95 - send for details

e BMon takes two video inputs - one from an Amiga's AA chipset (either directly or via a andoubler/flickerfixer) and the other from a graphics card (BVision, Cybervision, Picasso, o bus card etc) - and switches your SVGA or multisync monitor between them. The on uses high quality video switchers so - unlike conventional switchboxes - there is no nificant loss of quality from either source. It can also be used - in its SMon form - for tching an SVGA monitor between a PC and Amiga system.

standard the BMon accepts input from a BVision or Cybervision card and from an etech EZVGA internal flickerfixer-2 . It is manually switched by a remote miniature toggle itch positioned - for example - on the front panel of a tower system.

The New Eyetech Mk 4 EZTower System - from just £79.95

"This is definitely one of the easiest solutions to building your own Tower" - Amiga Format

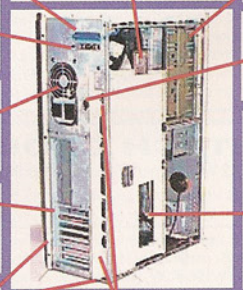
"The Eyetech Tower offers clever solutions with a Velcro easyfit mentality" - CU Amiga

- ✔ The easiest way to re-house your A1200 by far
- ✔ Expand your system with EZPC or Zorro slots
- ✔ 250 W PSU with PC and Amiga power connectors
- ✔ No expensive PCMCIA right-angle adapter required
- ✔ Available in 5 models to suit different skills and budgets
- ✔ The only tower allowing both PC & A1200 in one case

	Backplate Kit	DIY* EZTower	Full EZTower
DFO: face plate & ribbon cable	Yes	Yes	Yes
Custom backpanel w/SCSI, audio KOs	Yes	Yes	Yes
A1200 power & LED adptrs	Yes	Yes	Yes
CE-approved metal PC case	n/a	Yes	Yes
No of bays/PSU capacity	n/a	9/250W	9/250W
Directly accessible PCMCIA slot	Yes	Yes	Yes
DIY assembly instructions	Yes	Yes	n/a
Installation instructions	Yes	Yes	Yes
PC board/Siamese compatibility	Yes	Yes	Yes
Assembled & A1200-ready	No	No	Yes
Eyetech installation option	No	No	Yes
Cost with options as specified	£39.95	£79.95	£99.95
With EZKey/PC k/b (w/A4k k/b+£20)	n/a	£99.95	£119.95

*With the DIY EZ-Tower you have to remove the PC tower back panel and some internal shelving and fix the new back panel in place

* Optional extra not included in standard EZTower system



EZBus-Z4 - A new Zorro adapter from Eyetech featuring regular Z2 slots and 2x 19MB/s local bus connectors

EZTower-Z4 - A new EZTower specifically designed to take the EZbus-Z4

EZTowerZ4, k/b adapter, PC k.b & EZBus-Z4 £249.95
As above - introductory price - advance orders £199.95

erfaces and Adapters: EZ-Key, DIY Tower Components

-EZK2	Mk 2 Amiga/PC k/b adpt -> A1200 kbd direct connect	28.95
-EZK2-W95	Mk2 Amiga/PC k/b->A1200 dir connect +Win95 kbd	38.95
-EZSE-A	EZKey-SE Amiga 5p DIN k/b adapter for A1200/A600	18.95
-EZSE-A/K	EZKey-SE Amiga + 6p->5p adptr + A4000 kbd bundle	48.95
-EZKSE-P	EZKey-SE PC 5p DIN k/b adapter for A1200/A600	24.95
-EZKSE-P/K	EZKey-SE PC k/b adapter for A1200/A600 + Win95 kbd	34.95
-HD-2/3	2.5"/44way->3.5"/40w+4w adpt & 2.5->3.5 mtg bracket	11.95
-HD-3/5	3.5" Zip/SyQuest/FDD/HD brkt/pl ->5" bay	5.95
-KBD-5P6P	Amiga/PC k/b adapter 5p din-F ->6p m/d-M	5.95
-KBD-6P5P	Amiga/PC kbd adapter 6p mindin-F ->5pd-M	5.95
-DF0-FP	Tower faceplate adapter for A1200 int FD	4.95

erfaces and Adapters: A1200 Ethernet, SCSI

-PCM-ETH-C	PCMCIA ethernet card with Amiga/PC drivers	79.95
-PCM-ETH-H	Hydra PCMCIA ethernet card with Amiga drvrs	129.95
PT-X60C	Crossed twisted pair/RJ45 for Sisys 60cm	6.95
ETH-3M	Ethernet Coax + 2 x terminator 3m	9.95
-SCS-CSQR	Classic Squirrel PCMCIA SCSI i/f 50pCM	69.95

& Adapters: Flickerfixers, Genlocks, Video Digitisers
A Adapters, Monitor Switches, Monitor Leads

-VGA-BV8M	BVision 8MB gfx card for A1200 (needs PPC)	159.95
-VGA-BMON/F	SVGA Monitor Switcher - BVision/CVision & EZVGA INFF2	39.95
-VGA-BMON/V	SVGA Monitor Switcher - BVision/CVision & 15pHD In/Ex SD/FF	44.95
-VGA-BMON/A	M/Sync Monitor Switcher - BVision/CVision & 23p RGB socket	44.95
-VGA-SMON/F	SVGA Mon Switch - Ateo/Picasso 15pHD Gfx & EZVGA INFF2	44.95
-VGA-SMON/V	SVGA Mon Switch - Ateo/Pic'o 15pHD & 15pHD In/Ex SD/FF	49.95
-VGA-SMON/A	M/Sync MonSwitch - Ateo/Pic'o 15pHD & 23p RGB socket	49.95
-VGA-AMON	Auto Amiga/CV64-3D m/sync monitor switch	39.95
-VGA-M2SD	EZ-VGA-Mk2 compact external s/doubler PLL u/gradeable	69.95
-VGA-PLFF	EZ-VGA-Plus compact external SD+FF 23F-15F PLL	99.95
-VGA-SDUG	SDBL2 to SD+flickerfixer u/g	40.00
-VGA-INSD	EZ-VGA internal A1200 s/doubler non-upgradeable	48.95
-VGA-INSD2	EZ-VGA internal A1200 s/doubler for use with BMON	59.95
-VGA-INFF	EZ-VGA internal A1200 scandoubler w/ flickerfixer	79.95
-VGA-INFF2	EZ-VGA internal A1200 SD+FF for use with BMON	89.95
-VGA-SEFF	EZ-VGA-SE scandoubler+flickerfixer 23F-15F Xtal	89.95
-VGA-15M9F	Adapter from 15p HD-M VGA to 9pD-F	9.95
-VGA-9M15F	Monitor adapter 9p D-F to 15p HD-M	9.95
-VGA-15M23M	VGA 15pHD-M -> 23pD-M Amiga RGB adapter	14.95
-VGA-UNBF	Amiga 23pD-F ->15pHD-F VGA adapter	12.95
-VGA-BUF	Amiga 23pD-F ->15pHD-F buffered adapter for A4000	16.95
-PGB-24RT	ProGrab 24-RT Amiga par. port video digitiser (no psu)	94.95
-PGB-PSU	PSU for ProGrab 24-RT	9.95
-GLK-COMP	EZ-Gen composite video Genlock for A1200	69.95

erfaces and Adapters: A1200 Sound cards & software

UD-PL12-DT	Prelude1200 for A1200 DT console only	129.95
UD-PL12-TW	Prelude1200 for Tower w/ribbon cble/audio I/O brkt, CD i/f	149.95
UD-PL12-UG	Upgrade node from PL12-DT to PL12-TW	20.00
UD-PLZ2	Prelude ZorroII 16-bit full duplex sound card	189.95
SMP-OP	Samplitude Opus 16 channel, virtual projects, FFT filtering	149.95
SMP-LE	Samplitude-LE 4 channel , virtual projects, FFT filtering	49.95

& Adapters - IDE/ATAPI & Software

DE-FLYR	Elbox 4-dev 32 bit high perf buf'd A1200 IDE i/f	54.95
-FLR-SPC-SP	ROM spacers for Elbox IDE-Flyer purchased w/ IDE-FLYR	4.95
-FLR-SPC	ROM spacers for Elbox IDE-Flyer purchased elsewhere	8.95
2I-EZCD4	Mk4 4-dev buf IDE i/f w/AIPU w/A1200 CDROM s/w	28.95
2I-EZCD4/C	Mk4 4-dev buf IDE i/f w/3x40, 2x44 13cm cabs, CD s/w	38.95
2I-EZCD4/CE	Mk4 4-dev buf IDE i/f w/3x40, 2x44 cabs, EZIDE	48.95
2I-EZCDSE	Economy 4-dev buf IDE i/f w/A1200 CDROM s/w	18.95
2I-EZCDSE/C	Econ 4-dev buf IDE i/f w/3x40, 2x44 13cm cabs, CD s/w	28.95
2I-EZCDSE/CE	Econ 4-dev buf IDE i/f w/3x40, 2x44cabs, EZIDE	38.95
KI-CD4	4-device EIDE i/f for A4000 w/CDROM s/w	18.95
EZIDE	EIDE/ATAPI HD/CDROM/ZIP/LS120/SyQst drvr	34.95
EZIDE-CU	P/x upgrade to EZIDE from competitive product	14.95
EZIDE-SP	EIDE/ATAPI enhancer/CDROM Software Bundle Price	9.95

& Adapters-Serial, Parallel, Floppy, Clock port expanders

ER-PTJR	PortJunior - 460KB serial i/f for A1200	39.95
BL-S12	IOBlix 12S - 1.5Mbps serial i/f for A1200	49.95
BL-P12	IOBlix 12P - EPP parallel port i/f for A1200	49.95
ER-PTPL	PortPlus - 2x 460KB ser + 1x 800KB par i/f for A1200	79.95
BL-Z2	IOBlix Z2 - 4x1.5Mbps ser + 1x EPP par port ZorroII	89.95
BL-Z2PX	1x EPP par port expan for INT-IOBL-Z2 (to 4xs+2xP)	19.95
LK-EXP	ClockUp 4-way clock port expander for A1200	19.95
DD-DF0	Interface for std Sony FDD for DF0 880KB	9.95

les & Cable Adapters: Audio & Mains

AUD-CD	CDROM invt'd T audio cab .6m + 2xRCA plg	9.95
AUD-MIX	RCA(phono)-M -> RCA-M+RCA-F 'Y' mixer lead 1.8m	6.95
AUD-2M2M	RCA(phono)-2xM -> RCA2xM stereo lead 1.8m	4.95
AUD-MJ/PH	3.5mm st minijack->2xphono-M plugs 1.2m	5.95
-AUD-RCA	RCA(phono)-M -> 2xRCA-F adapter 'Y' mixer	2.50
-AUD-RCA-G	RCA(phono)-M ->2xRCA-F gold plated adapt 'Y' mixer	3.50
EC-1.5M	AC power cable 13A plug -> IEC skt 1.5m	2.50
-IEC	Rewirable IEC monitor plg for PSUs/MT/DT	4.95

les & Cable Adapters: Serial, Modem, SCSI, Printer

SER-EX2M	DB25-M -> DB25-F RS232 extn cab 2m for modem	7.95
SER-EX50C	DB25-M -> DB25-F RS232 extn cab 0.5m for modem	6.95
SER-NUL2M	Null modem cable w/ D9F & D25F at each end 2m	9.95
SER-NUL5M	Null modem cable w/ D9F & D25F at each end 5m	14.95
SER-NUL10M	Null modem cable w/ D9F & D25F at each end 10m	19.95
-SER-25F9M	25p-F to 9p-M serial RS232 adapter	4.95
-SER-25M9F	25p-M to 9p-F serial RS232 adapter	4.95
-SER-9M9M	9p-M to 9p-M serial RS232 gender changer	4.95
-SER-9F9F	9p-F to 9p-F serial RS232 gender changer	4.95
-SCS-50/50CF	Centronics 50p-F to Centronics 50p-F (for Squirrel)	14.95
SCS-25D/50C	SCSI cable DB25-M to Cent50-M 1m	9.95
SCS-25D/25D	SCSI cable DB25M to DB25M mac type 1m	9.95
SCS-50C/50C	SCSI cable Centr50M to Centr50M 1m	9.95
SCS-50H/50C	SCSI-2 cable 50h/pDM to Centr50M 1m for PPC	19.95
SCS-50H/25D	SCSI-2 cable 50h/pDM to 25D-M 1m for PPC	19.95
PAR-FULL	Bidirectional printer cable all pins connected	9.95

les & Cable Adapters: VGA, Keyboard, Switchboxes,
les, Scart Cables *(See also BMON, SMON autoswitches above)*

-SW-S/K	Dual monitor & k/b switchbox	14.95
-SW-S/K/M	Dual monitor, k/b & mouse switchbox	19.95
KBD-MF	5p DIN M - 5p DIN F k/b ex cable 1.2m	7.95
KBD-MM	5p DIN M - 5p DIN M k/b cable 1.2m	7.95
GA-MF	15p DM-HD - 15p DF-HD VGA ext cable 2m	9.95
GA-MM	15p DM-HD - 15p DM-HD VGA cable 2m	9.95
-SCAR-CMP	Amiga comp video (RCA)+2xAudio to SCART	12.95
-SCAR-RGB	Amiga 23p+2xRCA to RGB TV SCART + audio	12.95

les: HD, CDROM, Floppy, Clock Port Data & A1200 HD Power

PD-40F44F	2.5" (44F) to 3.5" (40F) data cab adapt for A1200 30cm	9.95
PD-2F	Power splitter floppy drive to hard drive + floppy	9.95
PD-30C	44 to 40way 3.5" HD data & pwr cabs - A1200	14.95
HD-KIT	A1200 full 3.5" hard drive fitting kit	24.95
2-2W-10C	22way-F x2 A1200 clock port cable 10cm o/a	5.00
4-2W-50C	34way-F x2 FDD ribbon cable for tower 50cm	9.95
0-2W-20C	40 way IDE cable 2 connector 20cm	5.00

CAB40-3W-1M	40Way IDE/HD/CD cable 3 connector 1m o/a len	9.95
CAB40-3W-60C	40w-F x3 HD/CD/IDE cable 20+40=60cm o/a	9.95
CAB40-CUST	Custom cable 3x40way IDE up to 1.5m	19.95
CAB44-2W-13C	44way (2.5" HD) cable 2 connector, 13cm o/a	9.95
CAB44-2W-60C	44way (2.5" HD) cable 2 connector, 60cm o/a	19.95
CAB44-3W-12C	44way (2.5" HD) cable 3 connector, 12cm o/a	12.95
CAB44-3W-24C	44way (2.5" HD) 7+17cm,3 connector,24cm o/a	14.95
CAB50-CUST	Custom cable 50way SCSI 60cm w/4 x Cent or IDC con'trs	19.95

Cables: HD, CDROM, Floppy Power Splitters-Tower Systems

CABPW-1W-1F	Power converter cab HD-M -> FD-F	4.95
CABPW-2W-1H1F	HD/FD power splitter HD-M->1xHD-F/1xFD-F	6.95
CABPW-2W-2F	FDD power splitter 4pM->2xFD-F	6.95
CABPW-2W-2H	HD/CD power splitter 4p-M ->2x 4p-F 15cm	6.95
CABPW-3W-2H1F	HD/FD power splitter HD-M->2xHD-F/1xFD-F	8.95
CABPW-3W-3H	HD power splitter HD-M -> 3xHD-F	8.95
CAB-HD-PWXTN	4p-M -> 4p-F HD/CD power cab ext 90cm	9.95
CAB-HD-FD/4	23p-M-floppy -> 4p-F HD/CD power 90cm	9.95

ISDN Term Adapters, 56k Modems & Net Access Bundles

even lower prices

NET-ISP	One time setup/support/unlimited usage/no ongoing net access charge (0845 call charges only) with 25MB web space, 10 email addresses, 90 days free net support.	29.95
[illegible]	128Kbps ISDN T/A + NET-ISP as above	129.95
[illegible]	128K ISDN T/A, Netconnect 2 + NET-ISP	169.95
[illegible]	56Kb fax/voice modem + NET-ISP as above	89.95
[illegible]	56Kb fax/voice mdm, Netconnect 2 + NET-ISP	99.95
MOD-56K	56K Voice/Data/Fax Modem External inc serial cable	69.95
MOD-ISDN	128K External ISDN terminal adapter inc serial cable	99.95
NET-REF	Internet Reference Book by D. Winder	2.00
NET-NC2	Netconnect 2.2 software	49.95

CDROM Systems including EZ-Tower & MT/DT Bundles

CD-SE-24X	CDPlus-SE system 24 speed with CDROM s/w	74.95
CD-SE-32X	CDPlus-SE system 32 speed with CDROM s/w	84.95
CD-DT/MT-24X	CDPlus Desktop/Minitower 24 x with CDROM s/w	94.95
CD-DT/MT-32X	CDPlus Desktop/Minitower 32 x with CDROM s/w	104.95
ADPT-AUD-CDSE	CDPlus-SE A1200/CD audio mixr/adapter	14.95
CAB44-CD-13C	44way (2.5" HD) cable purch with CD/HD 13cm	6.00
CAB40-DDC	A1200 IDE skt adptr 40F-40M with mtgs 15cm	9.95
CD24-BARE	Bare 24 speed CDROM mechanism for twr/A4k	34.95
CD32-BARE	Bare 32 speed ATAPI CDROM mechanism for twr/A4k	44.95

CDWriter/ReWriter Systems inc. EZ-Tower & MT/DT Bundles

CDR-BARE-2X8	EZWriter Mechanism (no MakeCD)	179.95
CDR-IN-2x8	EZWriter 2/8x with MakeCD for A4000,Tower	209.95
CDR-SE-2x8	EZWriter-SE external 2/8x with MakeCD	249.95
CDR-DT/MT-2x8	EZWriter Desktop/Minitower 2/8 speed with MakeCD	269.95
CDR-PL-2x8	EZWriter-Gold external 2/8x with MakeCD	279.95
CDRW-BARE-226	EZReWriter Mechanism (no MakeCD)	199.95
CDRW-IN-226	EZReWriter 2x2x6 w/MakeCD for A4k,Twr	238.95
CDRW-SE-226	EZReWriter-SE external 2x2x6 w/MakeCD	279.95
CDRW-PL-226	EZReWriter-Gold external 2x2x6 w/MakeCD	299.95
CDR-CDSE-UG	EZCD-SE+40+44way cabs + CDROMs/w w/CDR	20.00
CDR-CDM4-UG	EZCDMk4+40+44way cabs + EZIDE s/w w/CDR	30.00
CDR-CDFL-UG	IDE-Flyer high-speed IDE i/f, s/w, cabs purch w/CDR	50.00
CDR-DSK-10	Recordable CD media (WORM) 650MB x10	14.95
CDR-DSK-10-SP	Recordable CD media 650MBx10 pur w/EZWriter	10.00
CDRW-DSK	Single CDrewritable disk 650MB	9.95
CDRW-DSK-SP	Single CDrewritable disk 650MB pur w/EZReWriter	5.00
DVR-MCD-TAO-P	MakeCD TAO (P) Amiga CD rec s/w w/ATAPI	38.95

EZTowerZ4 Systems, Z4 busboard expansions

CASE-DTZ4	DIY EZTower-Z4 250W PSU, LED adpt, FD cab/fp	89.95
CASE-DTZ4-PL	DIY EZTower-Z4 250W PSU, EZKey, PC kbd, FD cab/fp	109.95
CASE-DTZ4-PLZ4	DIY EZTwr-Z4, EZKey, PC kbd, FD cab/fp Z4 slots	239.95
CASE-RTZ4	Ready-to-Use EZTwr-Z4 250W PSU, LED adpt, FD cab/fp	109.95
CASE-RTZ4-PL	RTU EZTower-Z4 250W PSU, EZKey, PC kbd, FD cab/fp	129.95
CASE-RTZ4-PLZ4	RTU EZTwr-Z4 250W, PC kbd/adpt, FD cab/fp, Z4 slots	259.95
ADPT-Z4	Z4 adapter for A1200 5xZ2, 2xZ2, 2xclock ports	149.95
ADPT-Z4-SP	Z4 adapter as above Ist 100 orders	129.95
CASE-FT-A4KUG	EZ-Tower upgrade from PC to A4000 k/b (time of purch)	20.00

EZTower Systems, MiniTower/Desktop Cases & Accessories

CASE-FT-DIY	EZTwr Mk4 kit w/250W, FD cab/fp, bkpl for self conv'n	79.95
CASE-FT-DIY-PLUS	EZTower kit w/250W PSU, EZKey, PC kbd, FD cab/fp	99.95
CASE-FT-RTU	Ready-built EZTower 250W PSU, LED adpt, FD cab/fp	99.95
CASE-FT-RTU-PLUS	Ready-built EZTwr w/250W, EZKey, PC kbd, FD cab/fp	119.95
CASE-DT	Desktop case with 200W+ psu for HD/CDROM	29.95
CASE-MT	MiniTower case wth 200W+ psu for HD/CDROM	29.95
CASE-FT-A4KUG	EZ-Tower upgrade from PC to A4000 k/b (time of purch)	20.00
CASE-FT-EXKT	EZ-Tower conversion kit - No PC Tower	39.95
ADPT-AUD-EZTW	EZTwr audio mixer/adapter for A1200/CDROM	14.95
ADPT-SCSI-EZTW	EZTwr SCSI adpt 30cm 2xCent50F, 1xIDC50F	14.95
ADPT-PWR-PPC	2nd A1200 m/bd powerfeed adapter (if req'd) for PPC acc	19.95
CAB-SER-SSQ	9pDM->9pDF SurfSquirrel EZTwr serial extn cable 50cm	9.95

SVGA Monitors- require SD and/or FF to use all Amiga modes

MON-14-.28	14" dig SVGA 0.28DP 1024x768@60Hz	89.95
MON-15-.28	15" dig SVGA 0.28DP 1024x768@60Hz	119.95
MON-17-.27	17" dig SVGA 0.27DP 1280x1024@60Hz	199.95
MON-17-.25	17" SVGA 160MHz,0.25DP,1600x1280@75Hz Diamondtron	399.95
ADPT-MON-SEFF	EZVGA-SE ext flickerfixer purch w/ monitor	85.00
ADPT-MON-M2SD	EZVGA-Mk2 ext s/dblr u/g'able purch w/ monitor	65.00
ADPT-MON-PLFF	EZVGA-Plus ext flickerfixer purch w/ monitor	90.00
ADPT-MON-INSD	EZ-VGA internal s/doubler purch w/ monitor	45.00
ADPT-MON-INSD2	EZ-VGA internal s/doubler purch w/ monitor for BMON	55.00
ADPT-MON-INFF	EZ-VGA internal f/fixer purch w/ monitor	75.00
ADPT-MON-INFF2	EZ-VGA internal f/fixer purch w/ monitor for BMON	85.00

Digital Cameras and Amiga Digital Camera Software

CAM-MIN-DMV	Minolta Dimage-V digicam w/psu, case, 2MB card CamC'trol	259.95
CAM-MIN-DMV-SM2	2MB Smartmedia card for Minolta Dimage-V digital camera	19.95
CAM-MIN-DMV-B40	40 x AA alkaline cells for Minolta Dimage-V digital camera	24.95
DVR-CAM-CAS	CamControl s/w for Casio QV10/100/300/700	29.95
DVR-CAM-FUJ	CamControl s/w for Fuji DS5/DS7 /DX7/DX9	29.95
DVR-CAM-KOD	CamControl s/w for Kodak DC20/DC25	29.95
DVR-CAM-MIN	CamControl s/w for Minolta Dimage V	29.95
INT-12I-PTJR-SP	PortJnr hi-speed ser i/f pur with CamControl s/w	30.00

Application Software & Drivers

ASW-MM400	Scala MM400 on CD	59.95
ASW-MM400-UG	Scala MM400 on CD with u/g from MM300	39.95
DVR-TBPR7	TurboPrint 7.x Amiga printer driver (English)	38.95
DVR-TB6/7-UG	TurboPrint 6.x to 7.x upgrade (send TB6 disk with order)	19.95
DVR-TB7-703UD	TurboPrint 7 to 7.03 upgrade	5.00

Amiga Image Conversion/Effects Software,
Scanner Software, Scanner Bundles and Adapters

SCN-FBA4-BDL3	UMAX award-winning SCSI A4FB scanner with PScope	179.95
DVR-SQ4	ScanQuix4 + 1 driver (Epson/HP/Artec)	59.95
DVR-SQ4-U	ScanQuix4 + 1 driver (UMAX)	79.95
DVR-SQ4-UG	ScanQuix3 to SQ4 upgrade (trade-in & receipt reqd)	29.95
DVR-PHS	PhotoScope UMAX-SCSI Amiga Scanner Driver	59.95
ASW-UCV4	Ultraconv 4 Graphics, animation & effects Amiga s/ware	39.95
ASW-UCV4-SP	Ultraconv 4 Graphic s/w etc purchased with ScanQuix4	29.95
CAB-SCS-25D/50C-S	SCSI cable DB25-M to Cent50-M 1m pur with scanner	5.00
CAB-SCS-25D/25D-S	SCSI cable DB25M to DB25M mac type pur with scanner	5.00
CAB-SCS-50C/50C-S	SCSI cable Centr50M to Centr50M 1m pur w/scnr	5.00
CAB-SCS-50H/50C-S	SCSI-2 cable 50h/pDM to Cent50M 1m for PPC pur w/scnr	10.00
CAB-SCS-50H/25D-S	SCSI-2 cable 50h/pDM to 25D-M 1m for PPC pur w/scnr	10.00
ADPT-SCS-CSQR-SP	Classic Squirrel PCMCIA SCSI i/f 50pCM pur w/scnr	54.95
ACC-SCS-BLM4-SP	SCSI/Simm socket for Bliz 1230/50 Mk4 pur w/scnr	59.95
ADPT-SCS-50/50CF-SP	Centronics 50p-F to Centronics 50p-F (SQ) pur w/scnr	7.50
ADPT-SQ3-PAR	SQ3 adapter Epson scanner ->parallel port cable	9.95

Hard & Floppy Drive, CDROM, LS120 & Zip Mech. & Cases

FDD-ITL-1200	Replacement A1200/600 int FDD 880KB	24.95
FDD-ITL-BARE	Bare 1.44/880 Sony FDD for tower (needs EZDF0/Catwsl)	19.95
FDD-ITL-D/C/I	Twr int 880Kb FDD(Sony/EZDF0/cab bundle)	29.95
FDD-ITL-D/I	Twr intl 880Kb FDD (Sony/EZDF0) No cable	24.95
HD2-21	21MB 2.5" hard drive 90 days warranty	29.95
HD2-170	170MB 2.5" hard drive	49.95
HD2-260	260MB 2.5" hard drive	59.95
HD2-3.2	3.2GB ultra slim 2.5"drive, 9mm high (2 fit in std A1200)	169.95
HD2-4.1	4.1GB ultra slim 2.5"drive, 9mm high (2 fit in std A1200)	189.95
HD3-3.2	3.2GB 1"x3.5" IDE drive for tower	109.95
HD3-4.3	4.3GB 1"x3.5" IDE drive for tower	129.95
HD3-1.72	17.2GB drive for EZPC system or IDE Flyer	299.95
HD3-LS120	Panasonic LS120 Floppy/Optical 1.4/120MB	79.95
HD3-LS120-CT3	3-pack of 120MB (nominal) LS120 carts	29.95
HD3-ZIP-CT1	Single 100MB (nominal) Zip cartridge	14.95
HD3-ZIP-CT3	3-Pack of 100MB (nominal) Zip cartridges	29.95
HD3-ZIP-IDE	Bare ATAPI/IDE Zip drive internal	79.95
CAB44-CD-13C	44way (2.5" HD) cable purchased with CD/HD 13cm	6.00
CASE-ZIP	Metal slim case-FDD/IDEZip/SyQuest/LS120	9.95
CASE-HD-ECON	External 3.5" HD case no psu	19.95
CASE-HD-REM	Removable drive case for 3.5" HD (metal) no psu	24.95

Keyboards, Mice, PSU's, Printers, Misc. Hardware

FAN-60MM	Cooling fan for A1200 60x60x25mm 5/12v	14.95
FAN-LP	CPU cooling fan for towered A1200 accelerators 12v	9.95
KBD-A1000	A1000 keyboard with 6-pin mini-Din cntr	39.95
KBD-A1200	Replacement A1200 k/b w/ribbon cable	24.95
KBD-A4000	A4000 keyboard with 6-pin mini-DIN plug	34.95
KBD-WIN95	Windows 95 keyboard with 5-pin AT DIN plug	12.95
MOU-WHI	Amiga Mouse	6.95
PRT-B&W-FUJ	Fujitsu portable thermal printer w/ribbon & PSU	49.95
PRT-B&W-FUJ-RIB	Replacement thermal transfer ribbon for PRT-B&W-FUJ	4.95
PRT-B&W-FUJ-BAT	NICD rechargeable battery for PRT-B&W-FUJ	14.95
PRT-B&W-FUJ-PPR	100ft x 8.5" Thermal paper for PRT-B&W-FUJ	4.95
PSU-100	100w PSU for Amiga (fit your old lead w/instrns,connect's)	29.95
PSU-200	200w PSU for Amiga (fit your old lead w/instrns,connect's)	39.95
PSU-230	200/250w replacement PSU for MT/DT/FT	29.95
PSU-A1200	A1200 23W PSU (original) 90 days warranty	19.95
SPK-60W-INT	5.25" Bay Internal mounting 60W PMPO speakers/amp	24.95
SPK-240W	240W PMPO speakers w/ PSU 3.5mm jack, AC mains PSU	24.95
SPK-600W	600W PMPO AC/mains spkrs w/ subwoofer	49.95

Accelerators: PowerPC with 680x0 Co-processor

ADPT-VGA-BV8M-SP	BVision 8MB A1200 gfx card pur w/ PPC acc	139.95
ACC-PPC-16-4025	Bliz'd PPC603/160MHz+040/25/FPU/ no SCSI	199.95
ACC-PPC-16-6050	Bliz'd PPC603/160MHz+060/50/FPU no SCSI	479.95
ACC-PPC-24-4025	Bliz'd PPC603/240MHz+040/25/FPU no SCSI	319.95
ACC-PPC-24-6050	Bliz'd PPC603/240MHz+060/50/FPU no SCSI	549.95
ACC-PPC-16S-4025	Bliz'd PPC603/160MHz+040/25/FPU/SCSI-2	268.95
ACC-PPC-16S-6050	Bliz'd PPC603/160MHz+060/50/FPU/SCSI-2	548.95
ACC-PPC-24S-4025	Bliz'd PPC603/240MHz+040/25/FPU/SCSI-2	388.95
ACC-PPC-20S-6050	Bliz'rd PPC603/200MHz+060/50/FPU/SCSI-2	548.95
ACC-PPC-24S-6050	Bliz'rd PPC603/240MHz+060/50/FPU/SCSI-2	618.95
ADPT-PWFD-5P	2nd A1200 m/bd powerfeed for PPC acc : PSU to 5p plug	19.95
ADPT-PWFD-FD	2nd A1200 m/bd powerfeed for PPC acc : PSU to FDD hdr	14.95
ADPT-PWFD-PPC	2nd A1200 m/bd powerfeed for PPC acc : PSU to PC fan	14.95

Accelerators: Apollo 680xx

ACC-060-75LC	Apollo '060 MMU 77MHz A1200 acc (lim avail)	299.95
ACC-060-66	Apollo '060 MMU/FPU 66MHz A1200 acc (lim avail)	349.95
ACC-060-50	Apollo '060 MMU/FPU 50MHz A1200 acc (lim avail)	267.95
ACC-040-40	Apollo '040 MMU/FPU 40MHz A1200 accel	184.95
ACC-040-40-SE	Apollo '040 MMU/FPU 40MHz A1200 accel (20% o/c)	164.95
ACC-040-28	Apollo '040 MMU/FPU 28MHz A1200 accel	124.95
ACC-030-40-1S	Apollo '030 MMU/FPU 40MHz A1200 accel 1 simm skt	59.95
ACC-030-40-2S	Apollo '030 MMU/FPU 40MHz 2 simm skt	69.95
ACC-4/60-SSKT	Apollo 1230/40/60 2nd simm socket & fitting	20.00

Memory: Simms, Zip RAM, FPU's-Please ring for latest prices

MEM-32MB-72P	72 pin 32MB 32 bit simm 60ns for Amiga (+£10 for 1-sided)	79.95
MEM-16MB-72P	72 pin 16MB 32 bit simm 60ns for Amiga	44.95
MEM-8MB-72P	72 pin 8MB 32 bit simm 60ns for Amiga	24.95
MEM-4MB-72P	72 pin 4MB 32 bit simm 70ns	14.95

WB Disks, Kickstart ROMS, Manuals etc

SYS-WB30-DSK	Amiga WB3.0 disksx5 + Eyetech HD install	9.95
SYS-WB31-DSK	Amiga Workbench 3.1 disks x6 (w/ HD inst)	14.95
SYS-KS31-ROM	A1200 Kickstart 3.1 ROM chips (2 chips)	29.95
SYS-KS31-SET	A1200 K/s 3.1 ROMs & WB3.1 dskx6 (no manuals)	36.95
SYS-KS31-MPUG	A1200 Mag Pk u/g 3.1ROMs,WB3.1,appln s/w, manuals	49.95

EZPC-Tower & Siamese Systems & Components

EZPC-SLE-CF1	EZPC SiSys RTG2.1entry level system	599.95
EZPC-HSE-CF1	EZPC SiSys RTG2.5 system Home Studio Edition	999.95
EZPC-DVE-CF1	EZPC SiSys RTG2.5 system Digital Video Edition	1369.95
EZPC-XLS-CF1	EZPC SiSys RTG2.5 system - ultimate Amiga expansion	1999.95
EZPC-AMP-CF1	A1200 Magic Pack/24x/3.2GB/etc EZPC-Tower upgrade	399.95
EZPC-SLE-CF1-UG	EZPC SiSys RTG2.1entry level u/g (no EZTWR/kb/adpt)	499.95
PSW-W9X/SS	Windows 9x & Lotus SmartSuite bundle	99.95
SYS-SIA-ETH	Siamese System2.5 w/PC, Amiga ethernet	189.95
SYS-SIA-R25	Siamese System software RTG v2.5	99.95
SYS-SIA-R21	Siamese serial s/w RTG v2.1 (ref'ble agnst v2.5)	19.95
SYS-TCP-MIA	Miami TCP/IP stack for Amiga (reg'n fee paid)	24.95

CD32, SX32 & Accessories

ADPT-KBD-SX32P	SX32 Pro PC k/b adapter cable 10cm	9.95
CD32-JOY	CD32/SX32 joypad	9.95
CD32-PAL	CD32 console with 18Wpsu/joypad/RF lead	149.95
SX32-MK2	SX32 Mk2 Ram/Clock/FPU expander for CD32	149.95
SX32-P40EC	SX32 Pro 030EC/40MHz Acc/Ram/Clk/FPU to 64MB	199.95
SX32-P50	SX32 Pro 030/50MHz Acc/Ram/Clk/FPU to 64MB	249.95

A1200 Magic Packs, Accessories and Upgrade Bundles

AMP-STR-FDD	A1200 Starter Magic pack FDD vers /w s/w	179.95
AMP-STR-HD2	A1200 Starter Magic pack w/170 HD, EZCD i/f, skt & s/w	248.95
AMU-STH2-CDUG	24 x CDROM upgrade for AMP-STR-HD2 w/PSU	59.95
AMU-PRO-LS120	LS120 120/1.44/0.72MB drive ug w/PRO-PK3	74.95
AMT-LE	FDD Magic Pack in EZTower	299.95
AMT-PS4	EZTower PS/4, 24xCD, 3.2, 030/40, MMU, FPU, 8mb	549.95
AMT-PS4-XLS	EZTower PS/4XLS, 3.2, 040/28, 240w speakers	669.95
AMT-SE	EZTower-SE,32x,3.2,LS120,040/28,16mb,EZVGA,15"mon,240w	999.95
AMT-SE-XLS	EZTowerSE-XLS, as AMT-SE w/17"mon,Prel12TW,CDRW,600w	1799.95

Tools, Test Equipment, Motherboards & Workshop Services

PT-MBD-1200	Replacement A1200 m/b w/VID & RST fixes (no ROMs)	129.95
FIT-EZ-MAIN	A1200 to EZ-Tower fitting - A1200 + floppy drive	30.00
FIT-EZ-XTRA	Fitting/testing per customer-supplied periph into EZtwr	7.50
ADPT-PWFD-SL	2nd A1200 m/bd powerfeed for PPC acc : PSU to soldered con	20.00
REP-AM-2B/1D4	A1200 m/b rev 2B or 1D4 manfact'g bus timing fault fix	30.00
REP-AM-PCMRST	A1200 motherboard CC_RESET manfacturing fault fix	30.00
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SCREENPLAY

The latest games, hints and some clever programming from you!



Wow, it looks like the games drought is over at last! After a few months where the ScreenPlay section has looked decidedly sparse, we suddenly get *Heretic*, a fantastic new take on the *Doom/Hexen* genre, where looking after your elf is even more important (sorry).

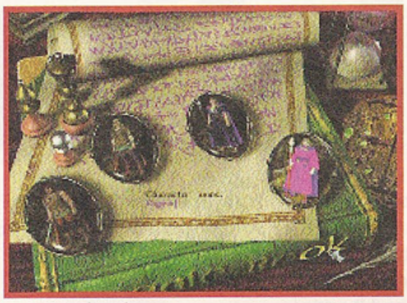
Then there's the unexpected arrival of *Red Mars*, a top notch *Dune II* clone, hot on the heels of *Napalm*. Arriving at the last minute, too late to be included, was *Moonbases*, so watch out for that one in the next issue.

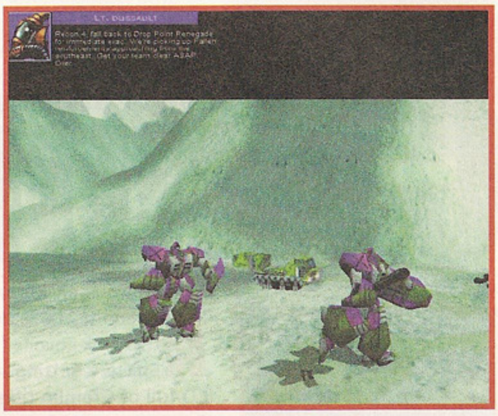
There's a new look at *Genetic Species*, our biggest Gamebusters guide for a long time and all the usual exciting news in Previews, so what are you waiting for? Get reading!

Mark Wheatley

26 PREVIEWS

All the upcoming game news, brought to you by **Ben Vost**.





Rage of Mages (above left) and Shogo (above right) are PC conversions which will require a PowerPC.

28 HERETIC

A new rival to *Doom* and *Hexen* arrives.

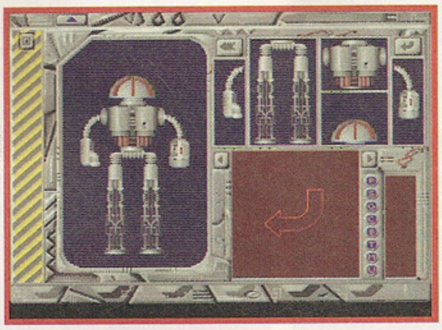




Corridors and violence, as usual, but there's much more of a fantasy roleplaying aspect to Heretic.

30 RED MARS

A strategy game for the modest Amiga.



Create your robots and prepare for battle!

32 READER REVIEW

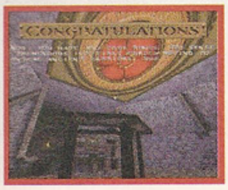
A different view of *Genetic Species*.

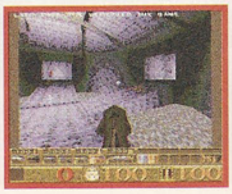


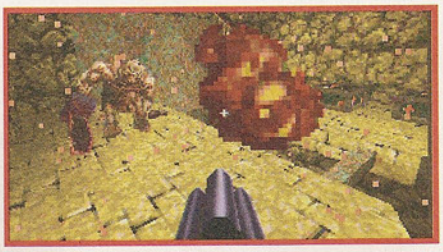
Brighter than Doom, but do you think it's better?

34 GAMEBUSTERS

Ben Vost's mega six-page guide reveals all the final secrets of *Quake*.







The going's getting tougher, but persevere because you're almost there!

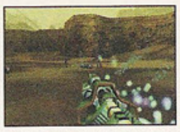
AMIGA FORMAT REVIEW POLICY

WHAT OUR REVIEW SCORES MEAN

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up to date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

90+%	The crème de la crème. Only the very best, most playable and original games are awarded an AF Gold – the most highly prized rating there is.
80-89%	These games are very good, but due to minor flaws they're not the finest examples of their genre.
70-79%	Good games which are worth buying, especially if you have a special interest in a game type.
60-69%	Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
50-59%	Below average games which are unlikely to impress your mates or your wallet..
40-49%	Overwhelmingly poor quality games with major flaws and appalling gameplay.
Under 40%	The absolute pits.

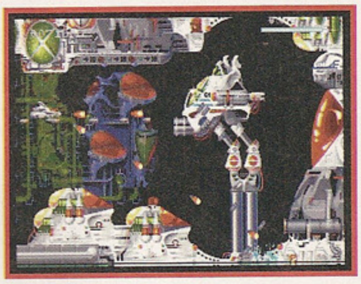
Previews



Ben Vost provides you with an essential look at the best forthcoming game releases.

Gremlin Compilation



Disposable Hero gives you a pretty good shoot-em-up...

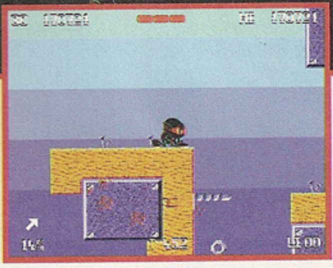
As you may have noticed from the back cover of last issue's *AF*, Epic are getting set to release a CD full of Gremlin titles, including *Supercars 1* and *2*, *Zool 1* and *2* and many more of their popular Amiga games. The CD will cost £25 and we'll have a review of it in our very next issue.





...Harlequin and Shadow Fighter give you puzzling and fighting...



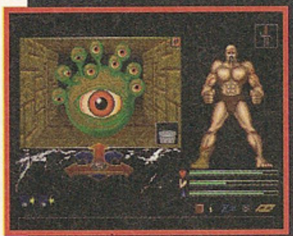



...while K240 and the Zool games give you strategy and platforming action.

Prophet Problems?

Alive's promising-looking title *The Prophet* looks like it will be seriously delayed. Alive are trying to get hold of the author as this is being written and hope to release it very shortly. The game was pulled from distribution at the last minute as the game's author discovered a bug in the game which meant that purchasers would only be able to play it for about an hour before it would crash completely. Unfortunately, he hasn't delivered an updated, working version of the game to Alive mediasoft's Steven Flowers, who isn't pleased. Steven had this to say:

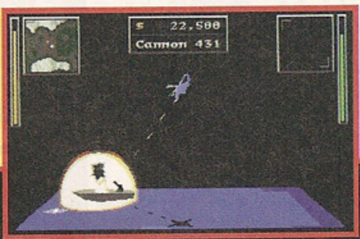
"We've had boxes and manuals printed already. As far as we were concerned the game was finished, but you can't sell something that's buggy to anyone, so we were prepared to wait for the finished game. Unfortunately, we've had no luck in contacting the author via email, fax or phone." We hope to review *The Prophet* in our next issue, but don't hold your breath...



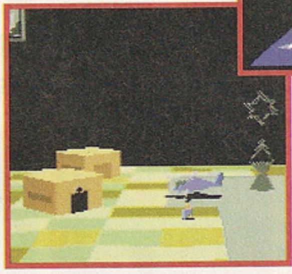
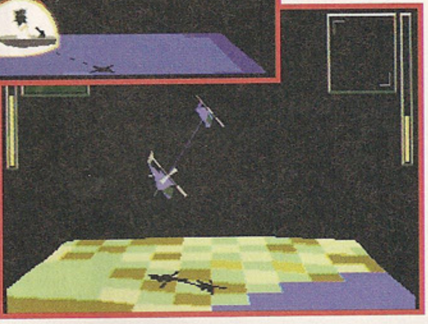
Where's a prophet when needed, eh?

Zeewolf 3

Not content with securing a licence for possibly the world's best future racing game, *WipeOut 2097*, Digital Images, the creators of *Space Station 3000*, have been talking to ex-*AF* editor Bob Wade about creating a new *ZeeWolf* game, tentatively titled *ZeeWolf 3* at this point in time. It's early days yet and we don't have any screenshots of the title, but here are some pretty pictures of *ZeeWolf 2* to remind you of what it was like.

The new version will be updated to support PPC and graphics cards.

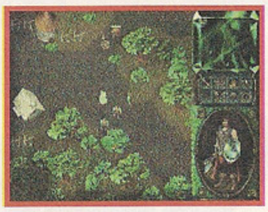
Let's hope the control method will be a bit more forgiving!

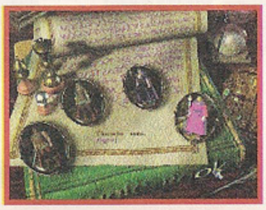
Shogo / Rage of Mages

Two more high-profile PC games have been selected for porting to the Amiga, although it's quite likely that they will be PowerPC-only titles. *Shogo* is to be ported by Hyperion Software, which consists of Thomas and Hans-Jörg Frieden, familiar to people for their ports of *Abuse* and *Descent* and as co-authors of *Warp 3D*, and Christian Sauer. For those unfamiliar with the game, it's a *Battletech* kind of thing with giant robots shooting it out, and it's been very popular on the PC.

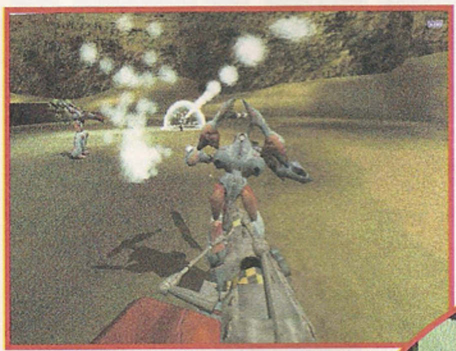
The other game to be ported is called *Rage of Mages* and is a real-time RPG strategy game complete with elves, a convoluted storyline and other such fantasy things. It'll be converted by newcomers Sanios Software and, interestingly, both titles were written by PC software company Monolith who granted licences completely separately to the Amiga games companies. Although it's not so demanding of the Amiga, *Rage of Mages* will probably also require a PowerPC processor to run.

Shogo is due out at the end of this year, and although no release date has been set for *Rage of Mages*, it's likely that it won't be here until early next year. For more details on *Rage of Mages*, visit the website at http://sanios.ion.tm
At the time of writing there's no website for *Shogo*, so keep your eyes on Previews for more details.

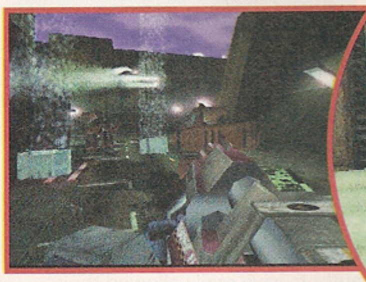




Watch out! Your elf rating is a bit low!

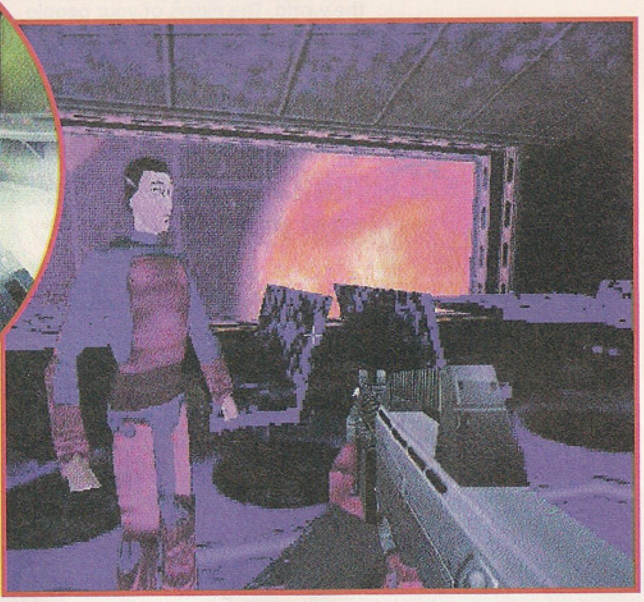


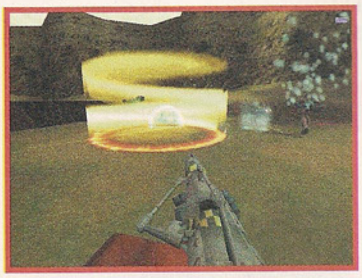
Robot-bashing madness with Shogo.

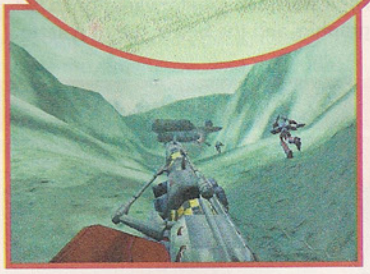


You can play on foot but why do that when you could have a big gun?









We told you not to go on foot. Now you'll have to talk to him.

Eat the Whistle PPC

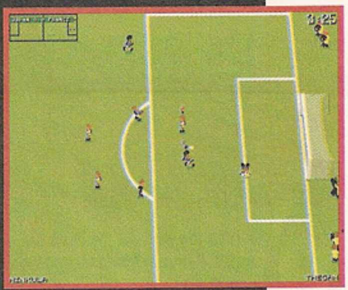


Serious Amiga gamers have more and more reason to get a PowerPC card for their machines these days, and now Hurricane Software are releasing their *Eat the Whistle* footie game for people with these stonking processors.

The PowerPC version of the game is a simple patch which requires both PPC.library v46+ and *AHI* to work. We don't yet know if it works with the new WarpUp emulation of the PowerUp library. You can get it from their website at: http://www.aspide.it/freeweb/hurricane/



They thought it was all over, but Hurricane are running up the field with the PPC version!



Heretic
The Shadow of the Serpent Riders



AMIGA GOLD FORMAT

Richard Drummond delves into this not-so-subtle blend of sword, sorcery and frantic 3D blasting.

Revenge is the order of the day. You're an elf, a heretic, and are shunned by the other races of the world. The elders of your people were killed in a war with the evil Serpent Riders. Now nothing will satisfy you except to carve out the tripes of the remaining Rider, D'Sparil. Luckily your people have left some magical devices lying about which might just help you in this quest.

> "The greater variation in the graphics and the better use of palette add significantly to the game's visual appeal."

So much for the plot. It suffices, if you like that sort of thing, and it can safely be ignored if you just want to get right down to the carnage.

Yet another Doom?

Heretic, like *Hexen* (reviewed last issue, 90%), is a spin-off from *Doom*. At first glance you'd be forgiven for thinking that it's just a fantasy version of that game. It shares the same pseudo 3D, texture-mapped game engine with sprite-based bad guys and objects, but there are improvements. For a start, the greater variation in the graphics and the better use of palette add significantly to the game's visual appeal. The monsters are more fun too. Being a fantasy world, the authors have really allowed their imaginations to roam wild, with such hideous creations as the Giger-esque Sabreclaw and the Ironlich, a really



No, it's not your girlfriend's mother, it's a Gargoyle. Oh, just blast it anyway.

Weapons

Staff



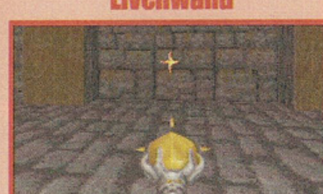
An ordinary, non-magical staff for poking, prodding and batting any nearby nasties over the head with.

Gauntlets



Gives your enemies a shock if they get close enough. When powered up it sucks the life force from your foe to replenish your own.

Elvenwand



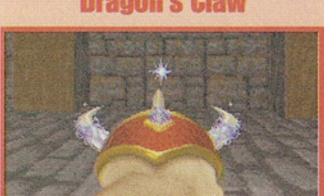
This is standard issue for an elf, but it's still rather puny. It can fire double when it's powered up.

Ethereal Crossbow



Slow to reload, but it fires three monster-worrying bolts. Fires an even more worrying five when powered up.

Dragon's Claw



A rapid fire weapon, the elven equivalent of an Uzi. It fires in four directions when it's powered up.

Hellstaff



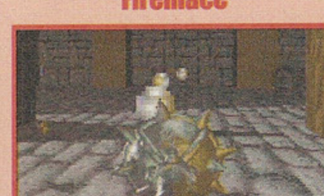
You can tell from the recoil of this baby that it packs a real punch. When powered up it rains fire down upon the foe.

Phoenix Rod



Fires bolts of molten death. When powered up it's a flame thrower which is great for toasting those critters!

Firemace



The ultimate weapon, it shoots out explosive, bouncing balls or, when powered up, huge, explosive, bouncing balls.

tough, disembodied skull which spits tornadoes at you. And while the gameplay is similar in concept to its predecessor, subtle changes have been made to increase playability.

The objective is the same, however. You must work your way sequentially through all the levels, solving puzzles, finding keys, discovering secret rooms and blasting anything that moves. It's bigger though – there are six episodes, each with nine levels, and the level design is far more compelling. There's always plenty to do, and always plenty of monsters popping up,

Objects

Blue Vial
Adds 10 to your health.

Quartz Flask
Boosts your health by 25.

Mystic Urn
Restores your health to full.

Shield
Adds 100 to your armour.

Enchanted shield
Adds 200 to your armour.

Torch
Lights up those dark places.

Map scroll
Provides a map of the whole level, including secret areas.

Bag of holding
Increases your carrying capacity.

Shadowsphere
Temporarily makes you invisible and invulnerable to man-made weapons.

Tome of Power
This temporarily increases the power of all your weapons.

Ring of invulnerability
Temporarily makes you impervious to attack.

Wings of Wrath
Temporarily gives you the ability to fly.

Chaos Device
Teleports you to the beginning of the level. This is a handy escape route when the going gets tough.

Morph Ovum
Turns any monsters into harmless, pecking chickens. Anyone fancy a drumstick?

Time Bomb of the Ancients
Drops a transparent bomb that explodes after one second. Don't be nearby when it does!



Why walk when you can teleport?

seemingly from nowhere, to blast. The game's designers have made good use of elevation to create the illusion of a 3D world, even though it's only 2D. This is where two of the additions to the *Doom* engine really come in handy: the ability to look up and down and to fly.

The biggest change to the gameplay is the use of objects in the game. In addition to the usual health boosts, ammunition and keys, there are other items which you can pick up, carry and use at a later date. These all have distinct purposes. For example, the wings allow you to fly and the Tome of Power increases the effectiveness of your weapons. This really adds to the depth and diversity of the game, and also effectively doubles the number of weapons at your disposal.

Amiga Heretic

Like the ports of other id games, *Heretic* for the Amiga exists in several versions and flavours. The one used for this review, by Sebastian Jedruszkiewicz and Jacek Cybularczyk, is the latest at the time of writing and comes in versions for 68K, WarpOS and PowerUp.

It's an accomplished port, supporting AGA and RTG screenmodes, sound effects, music, mouse movement, etc, and it handles all of the original game's features.

Since *Heretic* is similar to *Doom* technically, you may expect a similar performance. On an A1200 with an '060/66 it quite happily churns out 20 frames per second in AGA. This speed drops by 2 fps when the sound and music are turned on but hey, it's worth it. The sound effects are great and are a good warning sign for when some monster is trying to sneakily creep up on you.



That praying bloke is a dead giveaway for a secret door.

The one flaw with Amiga *Heretic*, as with *Hexen*, is the keyboard mapping. It's not just that three hands are required to play the game as that's bad enough, but there are collisions between key uses. For example, the return key serves two functions: one is to jump and the other is to use the current object. This has the side-effect that whenever you do want to jump, the current object is activated.

I suspect that this a bug and the intention was to distinguish between the return key and the enter key, but it's still annoying.

Hell's Maw, here I come!

Once the initial excitement at the porting of *Doom* to the Amiga had passed, the realisation dawned among Amiga users that it was actually a rather dull game. Despite its roots, *Heretic* is different. The fiendish level design, prettier graphics and general gameplay improvements make it a far more fulfilling experience. It does lack some of the classier touches of *Hexen*, but in any other respect it's *Hexen*'s equal.





Top: Power up your weapons and do some real damage.
Above: It may have lost its head and not had a decent meal in years, but the Ironlich is one tough cookie.

AVAILABLE FROM: Alive mediasoft 01623 467579.

REQUIRES: An absolute minimum is '030/25, 8Mb and AGA. Will benefit from fast processors and a graphics card.

Price: £15.

Pros and Cons

+ Great graphics.
+ Surprising depth to the gameplay.
+ Modest system requirements.
- Poor keyboard mapping.

OVERALL VERDICT:
A vast improvement over Doom.

90%









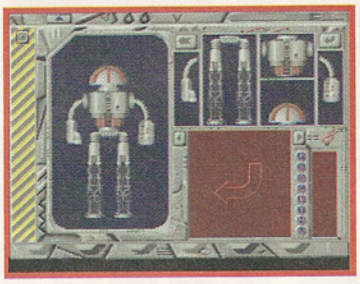
Heretic is all about revenge, so go on – let out all of that pent up aggression!

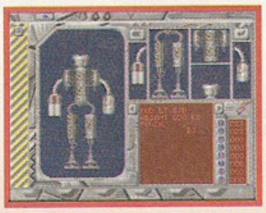
Red Mars



Red Mars or Psyche of Machines? It's got both names throughout.

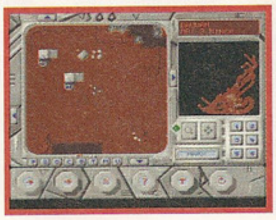
Having completed Napalm, Ben Vost looks around for another challenge.

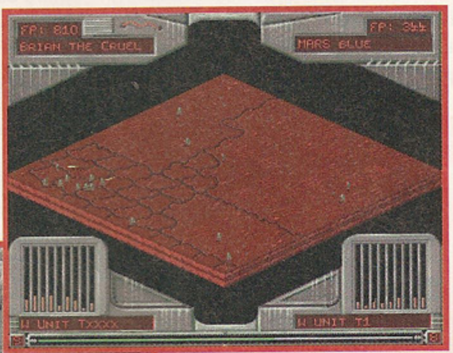




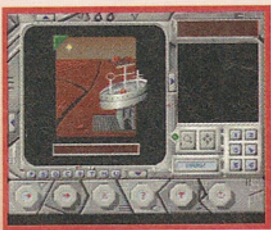
Your robots start off weedy like the one above, but get tougher (top).

Red Mars, also known as the slightly trickier *Psyche of Machines* throughout the game, is a turn-based strategy game. It's not really like *Napalm*, although I'm sure that a lot of people will compare the two. It also doesn't have the fairly stringent requirements that mean *Napalm* will only be played by well-heeled Amiga owners, seeing as it runs in ECS and probably doesn't need more than 1Mb of fast RAM (it's so hard to tell these days). That said, it's still a jump above *Dune*, the game that introduced the genre to the Amiga, and it's a lot more complex.



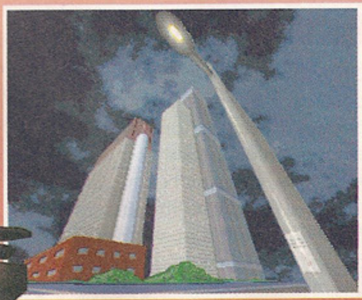






Fighting (top right) is done on a different display to the rest of the game.

> "I played the free game against myself and the CPU for about six hours and I've only just started getting into battles..."



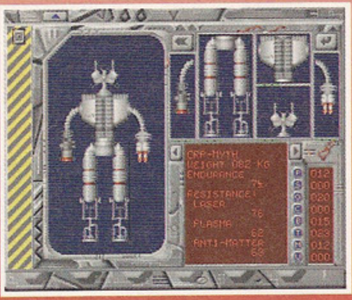
Some of the screens from the intro are lovely.



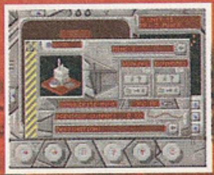
Rather than simply mining some unknown mineral to refine it to get cash and new tanks, etc, *Red Mars* involves you in prospecting for not one but eight minerals, all of which come in handy for building new units or turning into cash.

To start with you'll only need to mine three minerals in order to build basic units, but researching new weapons, factories and mining droid parts means that to use these new bits you'll have to mine other minerals up to the full complement of eight, which get progressively rarer to find. The other nice thing about the fact that research is actively rewarded is that you can put older units out to pasture (hint: getting a repair building also means you can demolish them for cash) and replace them with more efficient droids as the game goes on.

And it does go on. *Red Mars* isn't a fast-paced game by any means. Don't expect to be able to give it a quick go and then get your email, because to get anywhere in it you have to play for hours. In traditional style, your first turns are over very quickly because you don't have many units and they can't do much, but as the game goes on you'll find you have dozens of units you need to give orders to, which really slows the game down. I played the free game against myself and the CPU for about six hours and I've only just got to the point where I'm getting into battles every turn.



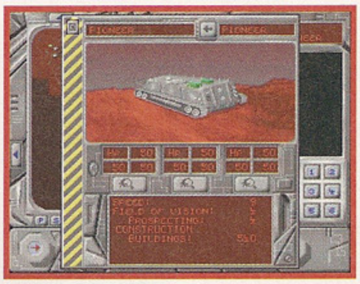
The numbers on the right are the costs for each bit of body – here it's the torso.



Mines need miners and a destination to send stuff to before they work.







Another intro shot and the most important vehicle in the game.

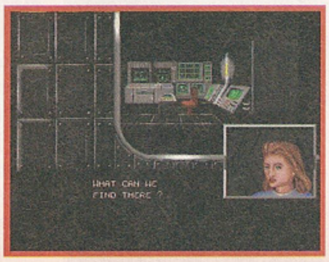
The best thing about the game is that you can tailor how much cash you get against how many machines you want to build – it's not directly related as it is in *Dune* or *Napalm*. You see, the mined minerals can either go for processing in power plants which gets you cash, or they can go straight to the factories where they're used for building machines.

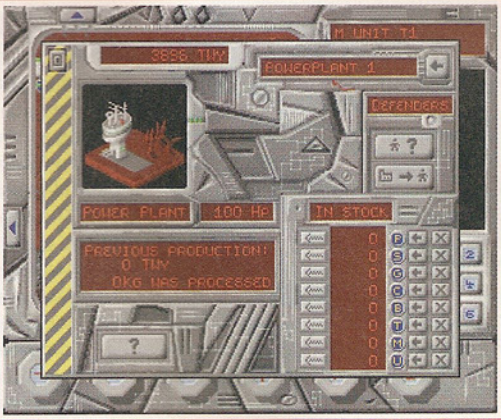
However, you need cash to create buildings that can make machines so you need a mixture of both and, of course, building a better robot means that you can mine more quickly, process the ore for quicker cash or build new robots faster with better factory droids. It's a juggling act and no mistake.

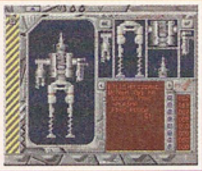
When you do eventually run into bad guys from the other side, battle ensues, and even here you have enough options to ensure that the game goes even slower. You can determine tactics for your units of droids, such as whether they'll hang back and go for ranged shots or pile in and melée. There's an auto-tactics setting that you may well use, but the computer's AI doesn't appear to be that high, either for the enemy or for the computer to guide your troops to victory.

The solution is to make sure you pile money into R&D and keep upgrading the robots you fight with. This is where you start laying out serious cash because the laboratories get funded on a turn-by-turn basis. In the labs you can determine how much of the budget gets used for the different elements of designing droids, which you can then build in the factories. It's all very involved and if you like the kind of game that involves stats then *Red Mars* will be right up your Valles.

The Mars setting is a bit tenuous as there are no Arean elements to the game other than there being red ground in the graphics, but all the same, this is an engrossing game for one player, and for more if they're patient.







Multiplayer Mars?

Red Mars not only has the mission-based single player game, but it also has a mode whereby you can play with up to two opponents, human or computer-based. This is great fun if you have the time to do it. Richard and I have experimented with a play-by-email version of the game which is very successful, although you can expect to trade 180K emails several times a day to begin with.

The only problem with it is that you can't save on the other player's intro screen (which precedes your turn proper), which means that you have to see their part of the map before you should, but other than that it makes for an interesting variant on multiplayer gaming. It's a lot less likely that you'll be able to get two friends around for what will really be a whole day of playing this game, so it's a happy compromise.

> **"The best thing about the game is that you can tailor how much cash you get against how many machines you want."**

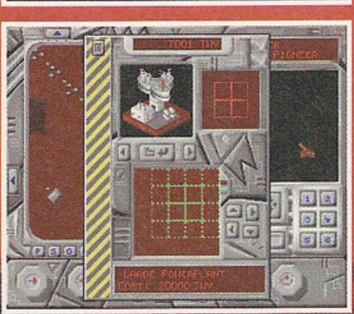


Giving orders to your units is as easy as hitting the right mouse button.

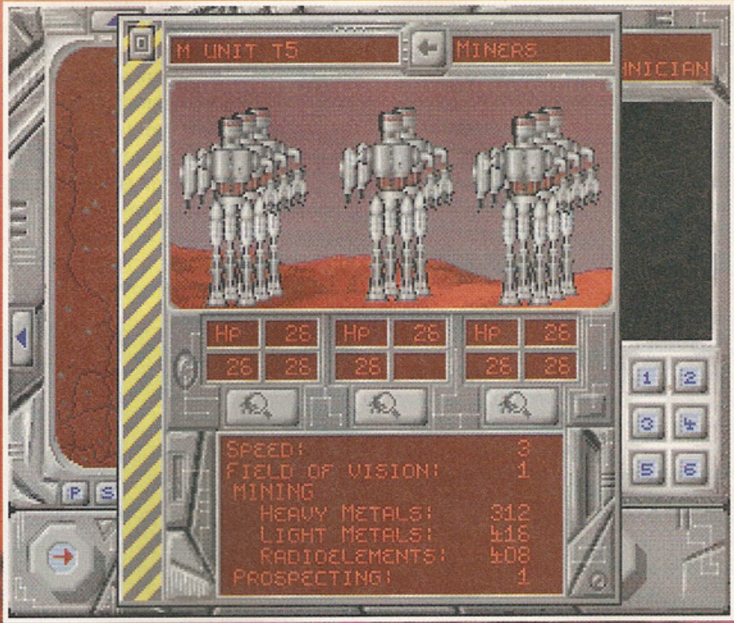


One of your team describes units and buildings to you in the extensive intro sequence.





The eight buttons below the playfield show you where ore deposits can be found.



Not all units have the full complement of nine robots in them.

SUPPLIED BY: Power Computing (01234) 851500
REQUIRES: Any Amiga with CD-ROM
PRICE: £19.95
RELEASE DATE: Out now

Pros and Cons

+ Absorbing gameplay.
+ Not too system-hungry.
- Sloooow gameplay.
- No extras for powerful machines.

OVERALL VERDICT: Great fun if you're the kind of gameplayer who likes slow games. If you need speedy action then don't bother.

85%

Genetic Species

Reader Reviews



Exactly one year after the original review in AF, Ross Whiteford takes another look at Vulcan's novel take on Doom.





The variety and prettiness of the graphics ensures a really satisfying gaming experience.

When I first read about this game (*AF112*, July 1998) I was unimpressed. Andy Smith's review of it made it seem inferior compared to *Quake* and I was given the impression that *Genetic Species* was just another *Doom* clone.

Summer in my part of Scotland came and went and before I knew it Christmas had arrived. In between shelling out my hard earned cash for presents and writing to Santa for more lovely hardware for my Amiga, I was asked what I wanted for Christmas. For some strange reason I remembered a certain Vulcan game that just missed out on an *AF* Gold award. "*Genetic Species*," I answered and then forgot all about it, until Christmas Day.

> "Horrible bio-engineered spiders scoot around the floor spitting acid at you, while large Mechanoid's shoot flechettes."



The 200Mb intro is beautifully rendered in Lightwave.

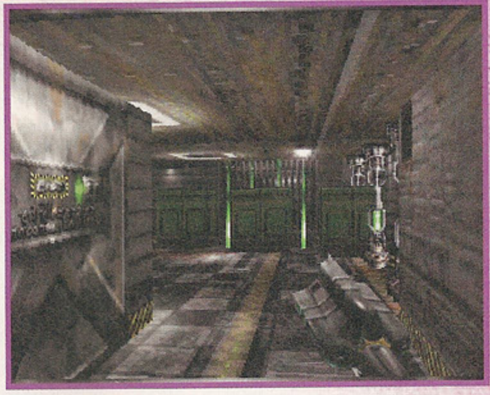
True Beauty on the Inside?

The *Genetic Species* CD arrives cased in a dull-looking plastic CD case. A close inspection of the CD cover reveals a complicated and attractive background pattern of what appears to be a circuit board. The ominous *Genetic Species* logo is the first thing you notice. Despite the dark colours, the cover is "bright" and eye-catching. No printed manual is provided with the game but the CD itself shows the system requirements (8Mb, '020, hard drive and 2x CD-ROM). A manual in 16 languages is provided in AmigaGuide and HTML format. Vulcan even have a special version of *IBrowse* included so there are no problems configuring the text reader. If you don't want to install *Genetic Species* to your hard drive you can simply click on the "CD Libs" icon after loading the CD, and the libraries (RTG, AGA, etc) are installed for you. A full version of *AHI* is provided for you to install and *CyberGraphX* and *Picasso 96* are supported, as well as AGA.

Enter the Bioshifter

Genetic Species contains a fairly detailed plot in which you are a "Bioshifter", a partly human cyborg which has been built by an organisation called the CFA (Counter Force Alliance). Who or what exactly the CFA are seems unclear at first, but they appear to be some sort of freedom fighter organisation, a bit like Greenpeace, only more menacing, intent on causing havoc among the large Earth corporations who are experimenting with mind control implants and other nasty gubbins.

Up until the present time (2208 AD), the CFA have been struggling as an unknown force has invaded one of the corporation bases and could threaten Earth. You are sent in to find out what it is and destroy it.



Although it can be dark and gloomy, it's never as dark and gloomy as Quake can be, even on the highest gamma setting.

The Usual Suspects

As you might expect from this sort of 'one man against the world' game, there are loads of bad guys just itching to stop you. These nasties play for keeps and have a variety of painful implements for dealing with you. These include fairly poorly armed security soldiers who happily fire .44 Magnums at you, but just as happily run away if they're wounded; more on that later.

Compared to the baddies you meet on later levels, however, these guards may as well be brandishing peashooters. Horrible bio-engineered spiders scoot around the floor spitting acid at you, while large Mechanoid's shoot flechettes, large slivers of sharpened metal. Ouch!

One of the crucial parts of this game is the Bioshifter's unique ability to fire a small probe into the enemy cyborg/robot/human/scuttling spider thing and then operate its body, a gruesome but amusing *Aliens/Body Snatchers* trick.

Ben's Verdict

Andy's review raised a controversy that took ages to die down, and Marble Eyes' game probably deserved better. For those with a yen for an original game along the lines of *Doom*, there's certainly no better title, but it did suffer by being released at the same time as clickBOOM's *Quake*.

The additions that have been made to *Genetic Species* over the last year have certainly made it a better game, particularly the patch that allows graphics card owners the ability to play the extensive and very well rendered intro sequence.

As to whether *Genetic Species* has withstood the test of time, and the recent ports of *Heretic* and *Hexen*, the answer has to be yes. Not only is *GS* more involved than those games, it's original!



The smoke, lighting and explosion effects in Genetic Species are certainly without peer on the Amiga.







Interactive scenery means barrels are waiting to be blown up, but you can't kill everyone – some you must take alive.

Once inside the body you can utilise that enemy's particular weapon and also gain access to restricted areas of that level. This is an excellent touch which I've never experienced before in any other computer game.

The gameplay on my '030, 40MHz 16Mb A1200 is fast and fluid, even on full screen with all sound effects and 1x1 pixel graphics. The game has full music playing continuously if you have speakers connected to your CD ROM too. If you don't have any speakers, fear not; the eight CD tracks can be played directly from an audio CD player.

Mission Impossible?

All in all, I felt that *Genetic Species* was very well presented. It begins with an amazingly well rendered 200Mb 3D intro animation which really sets the scene for the game ahead. Once you're absorbed in the game you begin to notice how well the levels have been designed, particularly the later ones. Fuel tanks burst, pipes rupture, doors and walls explode and a large variety of cunning nasties attempt to hinder your exploration in a well designed 3D-type world.

The bad guys obviously have high intelligence; small creatures like the Face-Huggers gather in packs while bigger robots and soldiers stand guard or patrol the corridors. Even the civilian technicians and scientists are only too happy to beat you to death with a fire axe or introduce you to the business end of a large electric drill. If, however, you get the upper hand and their energy decreases, they're quite happy to run away and tell their mates all about you. This means that you can often run into three or four of the enemy, all spoiling for a fight. This is an obvious indication of the high artificial intelligence in the game.



The variety of locations in Genetic Species is particularly gratifying.

As I've already mentioned, a crucial part of the Bioshifter's mission is to take over the enemy units. This can be done by pounding them with the Bioshifter's probe until you take them over, but some of the larger enemies, Mechanoids



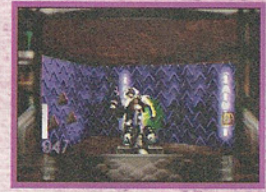
for example, suffer damage if attacked viciously by the probe, so to stop this you should stun your victim using the Tazer or the stun gun and then launch the probe. Taking over enemies is a very good way of getting better weapons and more vital energy.

The Bioshifter has a built-in map which can be brought up at any time during the game and which helps you escape the levels when you really need to – those "60 seconds to self destruct" missions spring to mind. As well as the map, the probe can be used as a "third eye"; it can be fired off and it then provides a camera picture of what's ahead for about five seconds.

Unfortunately, the camera is really hard to steer and keeps crashing into walls and blacking out, often making it more of a nuisance than a benefit. However, it definitely helps you to find those power-ups which are hidden in dark corridors, without you having to waste more time looking for them.

If Music be the Food of Love...

One of the best things about *Genetic Species* is the sound. While it may lack some of the growls, wails and screams of *Quake*, it does have a very good digitised voice, plus drips, splats, weapon noises and death sounds. At first, after many months of playing, I thought that this was all *Genetic Species* had to offer, but it also has some of the very best in-game music I've ever heard. I discovered this by accident because my Amiga has no CD-ROM speakers and so I decided to play the CD in an audio CD player.



The bad guys know when they should run and when to stand their ground.

> "Pipes rupture, doors and walls explode and a variety of cunning nasties attempt to hinder your exploration."

The eight instrumental tracks are written by Simon Baun and are very atmospheric and contribute to the creepy atmosphere of the dark corridors in the game. I really can't say enough about the music as it improves the game enormously and adds to the *Mission:Impossible*/James Bond theme that's particularly strong in the later levels. To say that the music alone makes *Genetic Species* worth the £29.99 price tag is a definite understatement.





Having a good supply of weapons can mean the difference between life and a messy death.

The End?

Overall, *Genetic Species* is a very good game. If I said that it was better than *Quake* I'd run the risk of having my nose bitten off by a hardened *Quake* player – my Gran for example! However, I find *Quake* inaccessible as there's not enough juice in my Amiga, and so, in my opinion, *Genetic Species* is much better. *Quake* is a rather gloomy game and I think any *Quake* player will enjoy the logical challenges and top notch graphics of *Genetic Species*.

Finally, I can only advise you to buy *Genetic Species*, turn the lights down low and the CD music up and enjoy one of the scariest games the Amiga has to offer. AF

DEVELOPED BY: Marbles Eyes
SUPPLIED BY: Vulcan Software
PRICE: £29.99

OVERALL VERDICT:
Buy it, play it, enjoy it and have some very strange nightmares!

93%

GAMEBUSTERS!

THE COMPLETE Quake SOLUTION PART 6

Ben Vost reveals the final secrets of Quake in this mega six page special!

Episode 4: The Elder World





You've found some really tasteful wallpaper too...

1. The Sewage System

Secret 1: You'll start this level at the top of a long shaft down which you must fall. To get to the first secret you need to go to the room where you explode the barrel (in front of the gold key door) and walk off the ledge. Go to the tunnel on your furthest right and follow it to the arrows pointing upwards.

Stand there facing the wall and you'll rise up until you can get off and cause some damage. Once you've killed the bad guys, the secret area is there in front of you. Where? Shoot the wall to get a yellow armour and a quad damage!

Secret 2: Once you've got the bad guys after the gold key door (watch out for doggies), you'll come to a corridor going up a slope and you'll see three fluorescent lights hanging down, and the last one will be blinking on and off. A clue? You bet.



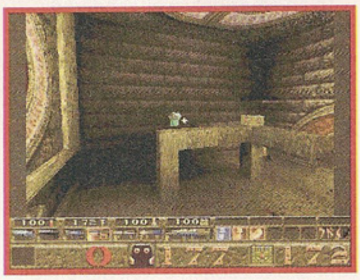
Bet something nasty was in there too.



Armour of zero? That's not good...



A wobbly dagger symbol. You can't hit it until the door to your left has closed.

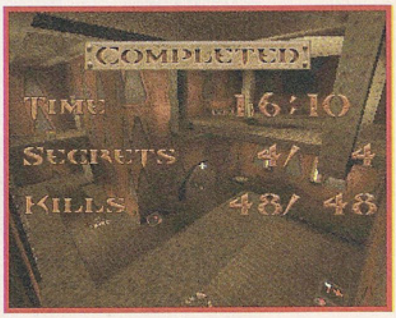


Lots of goodies to pick up, including some nice health.

Run up the slope and headbutt this light and you'll open a door onto the ledge area on your left that you've just run past, getting a megahealth and a quad damage. This isn't easy to do so you may need a few tries, and watch out for the enforcer just around the corner as you do it.

Secret 3: Not much to this one. You'll get to a set of steps around a pillar (you can go up either side). At the top there'll be some baddies and a biosuit. Get them and it, then turn around and look back down the stairs, but instead of looking at the floor look up and you should see a target tile. Shoot it and you'll open a secret slipgate in the room before. Walk through and you'll appear in the room leading to the gold key room.

Secret 4: Once you've gone through the slipgate and gone back to the





Find all the secrets and kill everything (left) with the final part of our huge walkthrough.

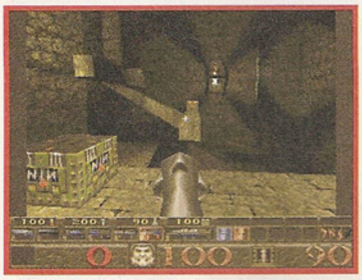




One of the less gloomy and dark rooms in Quake (left).



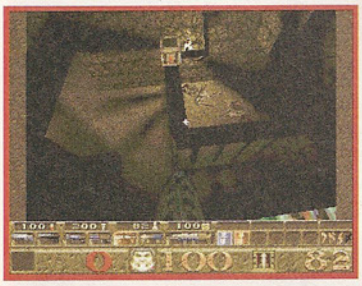
Hurrah! You've discovered some green armour at the end of a secret ramp.

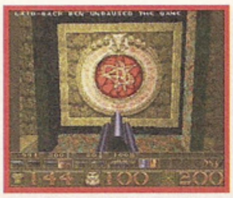


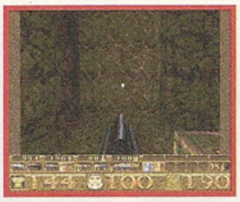
Jumping to the beams isn't as tricky as it looks in the screenshot.

floodgate room, swim through the tunnel into the big room with the steps up to the right hand side. If you haven't already done so, press the switch in the dry bit of the room, but if you've already done that there should be a large hole in the floor.

Go through it and then go through the following tunnel into a big room with more evil miscreants intent on shooting you up. Ignore them for a moment and swim to the top left corner of the room furthest away from you. It's hard to see but there's a patch of water there instead of ceiling. You can swim up into it and get some air, some shells and a bit of health. Drop back down to shoot the clowns.









Above: Hmm. Ben is rarely laid-back in Quake – you should hear him swearing at the ogres when he's under attack!

2. The Tower of Despair

Secret 1: The stained glass window is the key. If you ignore it you'll be told to shoot it when you get the megahealth anyway, and it'll open the cages at the end of the room so you can get the health and the double-barrelled shotgun.

Secrets 2 & 3: Turn right out of the room and go to the end of the dead-end passageway. Shoot the wall to your right and a wall section will open. This leads you to a room with nails and a Ring of Shadows which you should ignore right now as you'll need it later. Wait inside the room for the door to close and you'll be able to get to a dagger tile to the right of the door. You can't push this tile while the door is in any way open, but as soon as it's closed properly, push the dagger tile, retreat back into the room and shoot the door.

You should have enough time to exit the room and see a hole in the floor which leads you to the gibbet kind of structure in the first room, and there'll be some armour too.

Secret 4: It all gets a bit hectic now. After you've killed the bad guys down the right-hand corridor, go down the other one and kill loads of stuff – vores, ogres, shamblers, the lot. You'll be in a room that has a couple of beams and a cage with another ogre in it. If you jump onto one of the beams you'll see that there's a passageway in the corner of the room. Jump to it and walk along the short corridor until you're in a doorway overlooking a room with a cage, a deathknight and a megahealth. After killing them, jumping down to the megahealth puts another secret area under your belt.

Secret 5: Go through the stained glass window you'll get to (you'll be standing in a cage – you'll know where when you get there) and go up the lift. Ignore the dagger tile momentarily as you kill the knight. Still ignore the dagger tile and go around to the right of it. There's a blank bit of wall there and, in traditional *Quake* style, you should shoot it and drop down to a ledge where two ogres are waiting for you. That's the fifth and last secret area for this level.

3. The Elder God Shrine

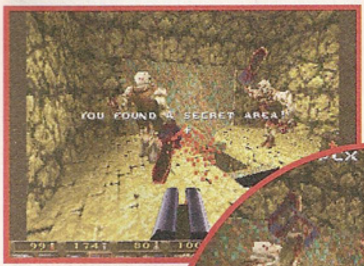
Secret 1: The first secret's a fair way in. When you get to the room with the lift and the scrags appearing from two windows, you're there.



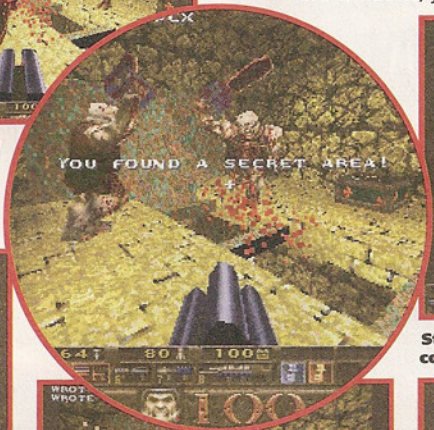


A concealed doorway that's easy to miss (above) and some much-needed health (top). Well, it would be if we weren't cheating, anyway...

Continued overleaf ➡



Not that secret an area – the ugly guys with chainsaws found it first...





Stained glass windows aren't found in your common ogre's lair, you know.

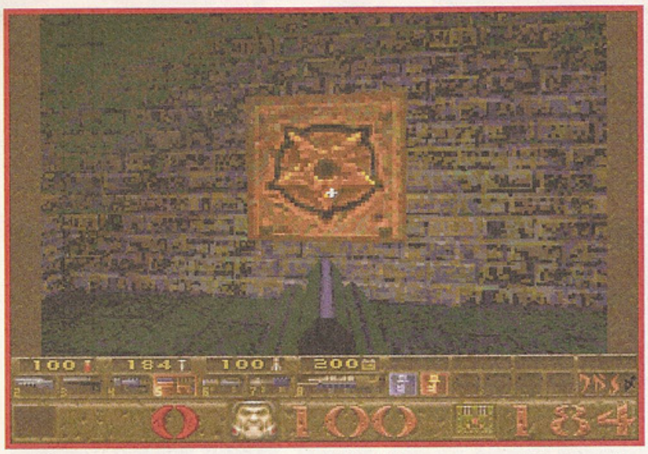


Leaping round the roof beams can prove beneficial.



That's more like it – carnage, explosions and death! Wuhoo!





That panel looks like it's just begging to be poked or shot at.



Looks dark, spooky and eerie so keep your gun out and stay alert.

Kill all the scrags and then you'll find that you can walk into the windows to get some health. Hardly generous, but there you go.

Secret 2: You'll come to a large room with a central pillar. Hitting the pentagram tile on the other side of the pillar drops the room for Secret 2, but it's hardly a secret. Oh well.

Secret 3: That's more like it! Don't stay on the lift in the middle of the room, just activate it and get off. You'll see a slipgate under the lift which leads you to Secret 3, the bit with the red armour in the room where you got the scrags and Secret 1.

4. The Palace of Hate

Secret 1: In the big room near the start of this level you'll see a red stained glass window in the wall opposite an archway. Shooting the

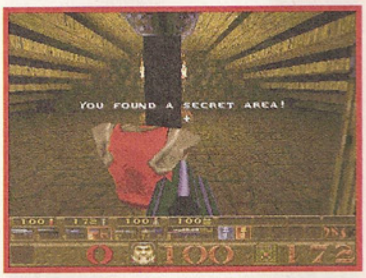


Is that a gun or a splodge on the wall?

knife logo above the arch will open this window and will reveal another fiend and some goodies.

Secret 2: You'll find a pool which heals you through the archway. The game's designers reckon this is a secret area even though it's in plain sight, and who are we to argue?

Secret 3: Behind the room with the pool there are some steps. There are bad guys galore here, including fiends and knights, but you've got that pool to help. Anyway, go up the stairs into the dark corridor. A little past halfway on your right there's an entrance. Step into it but step back immediately as the platform rises and you'll be in a secret area where you can get some red armour.

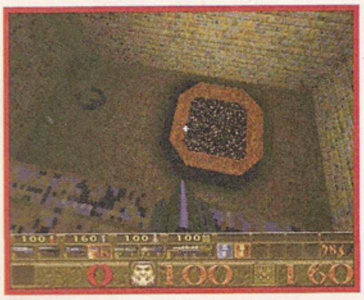


Some red armour, just for you.

Secret 4: After crossing the bridge, taking out the fiends and scrags and getting to a point where you have to turn left or right, turn left and get the inviting box of nails at the end of the room. The walls to either side of you will drop down revealing bad guys, but the wall to your right, if you're facing away from that end wall, is actually a lift.

Get on it and rise to a ledge where you should be

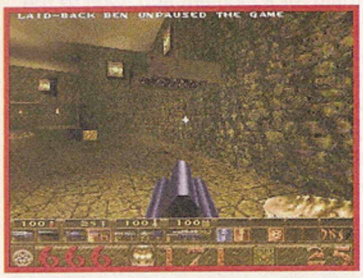




You've found another slipgate (above).

able to see a slipgate and a useful quad damage.

Secret 5: This one's tricky. There's a slipgate perpendicular to the wall and the idea is that you explode a grenade under you in a pockmark on the floor and jump at the same time (a sort of rocket jump, only you don't have the rocket launcher yet!). Do it while your Pentagram of Protection is active and you'll be fine.

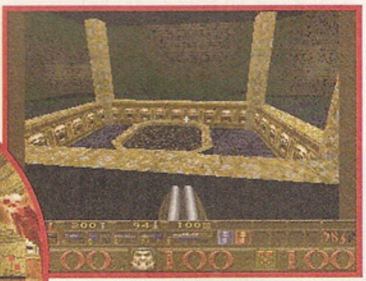


A rather Satanic level of armour...

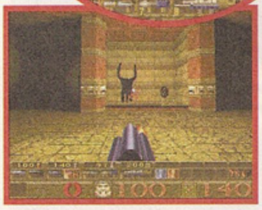
5. Hell's Atrium

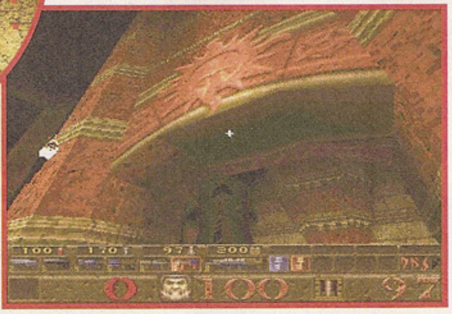
Secret 1: You'll enter a large room with a pentagram tile on the floor. Step on it and a lift will descend. Ride

Below: If anything tries to stop you getting to a secret area, we recommend using the super nailgun...









Intimidating and impressive architecture.

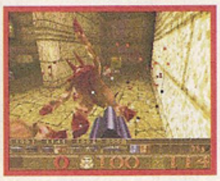


Looks like there's some goodies in the dark (above).





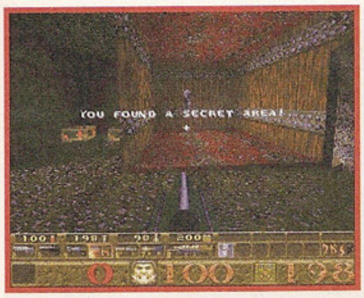




Some of the secret areas will take quite a bit of effort and fighting to get to.



Right: Shoot anything that gets in your way. Above: A gloomy corridor. Again.



Medical supplies will become more vital as you progress through these levels.

it back up and look out into the room again and you'll see a sun and dagger tile that you can shoot to raise the metal bit of floor to allow you access to the first secret room.

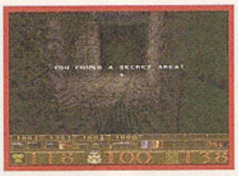




Blow all the bad guys to bits and then get on with some exploring.

Secret 2: Quite a way after the last secret, you'll come to a room with stained glass windows that open to reveal zombies once you step on the tile in the middle of the room, so kill 'em all. One of the rooms that they came out of is a bit bigger than the others. Go





Secret areas abound, but you need to know how to get to them.

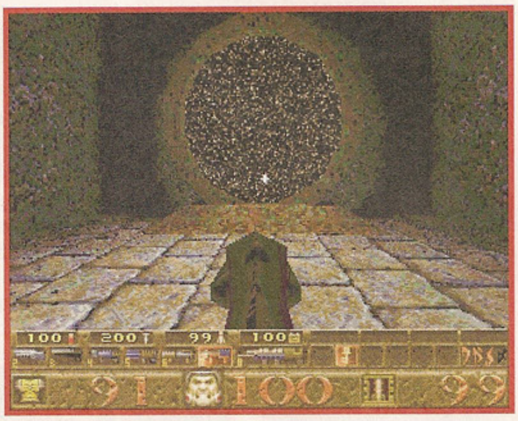


into this one, turn right and shoot. The wall will lift up, revealing a lift to a ledge where the deathknight was, and which runs around the room. There's a pool of slime to your left and in it you'll find some armour (yellow), a Pentagram of Protection and a spawn to kill.

Secret 3: This follows on pretty swiftly. Go along the high ledges until you come to an opening. There's a deathknight inside so watch your step, but get the cells and the health by jumping onto the beam across the room. This is pretty tricky!

Secret 4: Jumping from beam to beam gets you more health and two cells.

Secret level: Don't use the silver key at the end of the level. Instead, try the incredibly tricky task of jumping from pillar to post across the lava like some mad version of the karate kid. There's another silver key door to the left of the normal exit to the level which isn't there if you've already used the silver key, even if you cheat.



Is that a giant, curled up hedgehog rolling down the corridor towards you? Oh, it's a slipgate. Sorry.

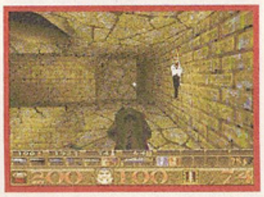


Secret Level: The Nameless City

Secret 1: Where you get to the shambler near the start of the level you'll see a hole in the floor. Drop through it and you'll be on a ledge in the room where you had to make a running jump at the wall to trigger the pentagram tile. This leads you to some red armour.

There's a sort of secret down the pit with the zombies, the one with the really deep drop. If you shoot the stone behind where the zombies were you can get some good stuff like cells, health and so on.

Secret 2: To get to this one you need to run off the edge of the deep pit from the secret doorway you've just got and you



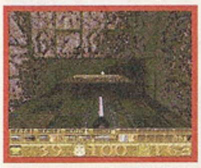
Hurrah! A room in Quake with some decent lighting.



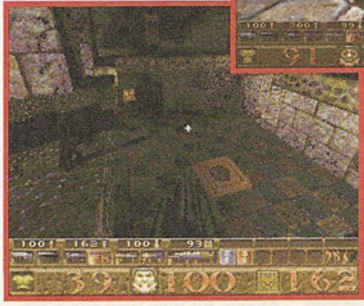


Keep your eyes open for patterned bits of floor (above left) or wall – they could lead to secret areas.

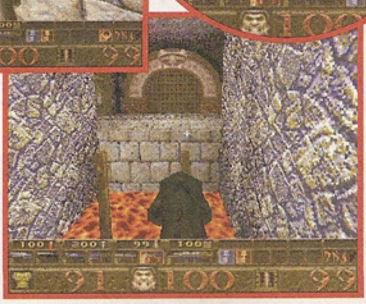






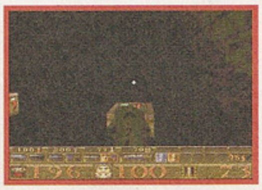


A dark and shady room. Keep your eyes open for badgers.



Be wary of the lava – it's definitely a bad idea to go paddling in it.

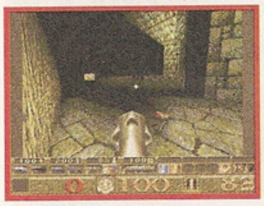




Above: One of those situations where you'd swap your shotgun for a box of matches or a torch.

Continued overleaf ⇒





It might be an effective weapon, but it still looks like you've grown a trunk.

Now you're getting near the end of the game, it's a good idea to get all the secret bonuses you can.

should land on another ledge where you can get some health and a quad damage.

Secret 3: Well, eventually you should be on a ledge above the first main hall, open to the elements. Jump across to the gold key, then drop down and head over to that first corner where the gold key door was. Go inside, get the health and cells and hit the tile to lower the lift back to that platform. Easy.



Secret 4: Right at the end of the level you'll be in a room with two ramps. If you go up the right hand ramp (as you face them) you'll be able to hear some zombies in the cage below. Blow 'em up with your grenade launcher and go over to where the cells are. You'll see that there's a bit of the floor that you can drop through to get into the cage and pick up the megahealth. Hit the tile to open up a section of the wall (back





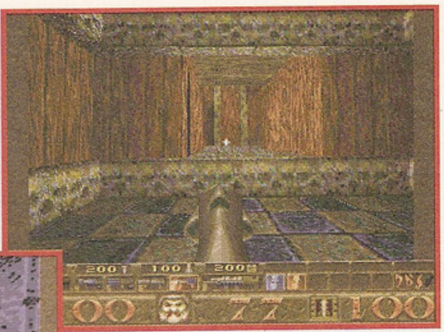
You got the rockets – better see a doctor then! Hee hee! Ahem. Sorry.

near where the cells were) so you can get out again and kill the vore in front of the exit while you're still super-healthy.

6. The Pain Maze

Secret 1: In the first blue room with blue columns, walk around the one closest to where you came out. Although you can't see it if you're looking head-on to the pillar, if you're looking at the side you should see a tile. Thump it and a wall will open up with a lift.

Secret 2: You'll get past the altar from the last secret area and into a room with those horrible spawn things. Send 'em to their graves and then drop into the pool in the room.



There are rotfish, but these are easy to dispatch. In the underwater room you'll see a passageway leading down, but there's also one going up into Secret Area 2.

Secret 3: In the big circular room there's a weirdly coloured wall on the central column. Shoot it to get some handy extra bits and bobs.

Secret 4: Take the tunnel down through the water and emerge into a large circular room. You should have got the gold and silver keys now and you need to use the gold key to get



Is this worth investigating? Better read the guide to find out!





The BBC's Changing Rooms team decided to go for the dingy, gothic, ogre's lair kind of look...





Above: Armour can be hidden in some really peculiar places.









Wobbly walls (above) can be a bit disconcerting if under the influence.





Above: I'd give wall tile a bit of investigating – it looks suspicious and secretive.

the lift up. See the red armour? You know you want it, so shoot the window in the ceiling and see the beam rise up. Go around to where it is, get on and shoot the window again. You can then jump onto the platform where the armour is.

7. Azure Agony

Secret 1: To get that tantalising red armour, make sure you get the biosuit, then walk to the left of the armour to where there's a quad damage waiting. As you approach it the floor opens up and deposits you in deep shi… sorry, slime.

Get the quad damage, but don't go for the obvious slipgate – go for the one around the corner. This puts you where the red armour is.







You need to walk around these roof beams (top) to reveal some secrets.

Secret 2: Make sure you're standing on the right step for this as once those stairs have gone up you can't get them back down to try again. For Secret Area 2 you'll need to be in the bit after the vore with the Ring of Shadows. Go down the stairs, turn right and you'll see a set of stairs going



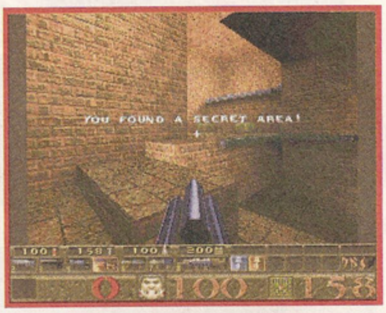
down and one going up. The ones going up have a red dagger tile underneath them. Stand on the bottom step of the stairs covering this tile and then shoot it. The step you're standing on will rise and you'll gain access to a new bit of floor.

Secrets 3 & 4: These are both in pretty much the same place. You know that secret area you've just got to? Well, there should be a hall opposite you if you turn to your left. In that hall there are two spotlights shining at patches of the wall. Guess what? Two secret areas with rockets.

Secret 5: Still in this little bit of hallway, go to near the end where the Ring of Shadows is and look at the wall. Shoot it and it'll open. That's the good news. Unfortunately, the bad news is that there's another vore behind it, but it's still Secret 5.

Secret 6: There's a pool with a Quake tile. Hit it and you'll open the end of





Secret areas left, right and centre. They're all over the place!

the red brick hallway. It'll release a fiend and two spawn, but on the plus side you'll gain some cells.

Secrets 7 & 8: There's a room with an "iron cross" bridge in it with a couple of vores. Once you've killed the one on your right near the quad damage, get it and then drop into the water under that area. There's a secret area with some rockets…

Secret 9: …and one with a slipgate that puts you where the megahealth was earlier in the game (where Secret 5 was).

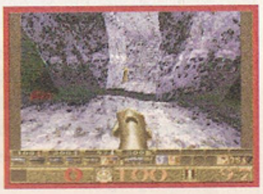
8. Shub-Niggurath's Pit

Secret 1: Only one secret here. Just before the slipgate at the end of the path, if you look over the ledge you should see a pathway. Drop onto it (carefully, as if you needed to be told) and follow it to a quad damage that you shouldn't really need now. There's also a slipgate to take you back to the ledge with the slipgate you need to use to kill Shub-Niggurath.

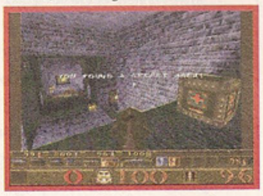
"Well done and congratulations," as iD Software say, you've got to the end of this mammoth *Quake* walk-through! Next issue we'll be starting a full *Sixth Sense Investigations* walkthrough for you. AF



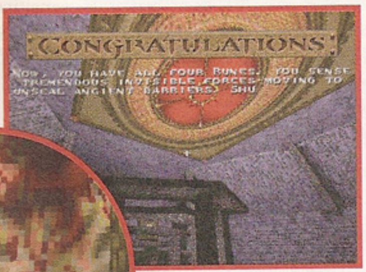
A big button with a Quake symbol on it (above). Better give it a nudge…



Nice carved skulls in the walls, don't you think?



We make finding secret areas easier than blowing into a weasel.





Collect all four runes and feel tremendous invisible forces. Oo-er.

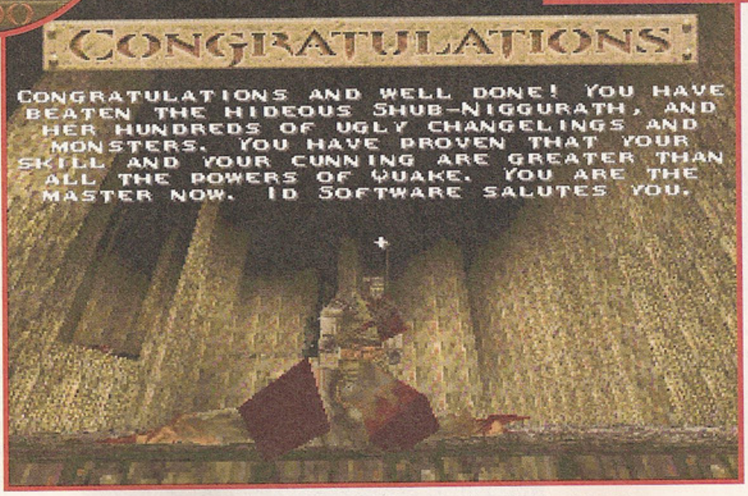


Looks like a root vegetable (above). Better kill it.



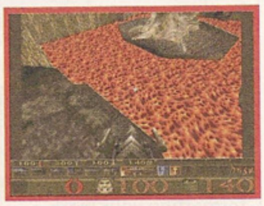


After getting this close in a fight (inset, above), the first aid (above) will be vital.



That's all the recognition you get after all that effort and killing?! Pah.





Lava – it's hot and burns so stay out of it.



PD Select

Richard Drummond takes a look at the best PD and Aminet releases of the month.

MetalWEB v3.0

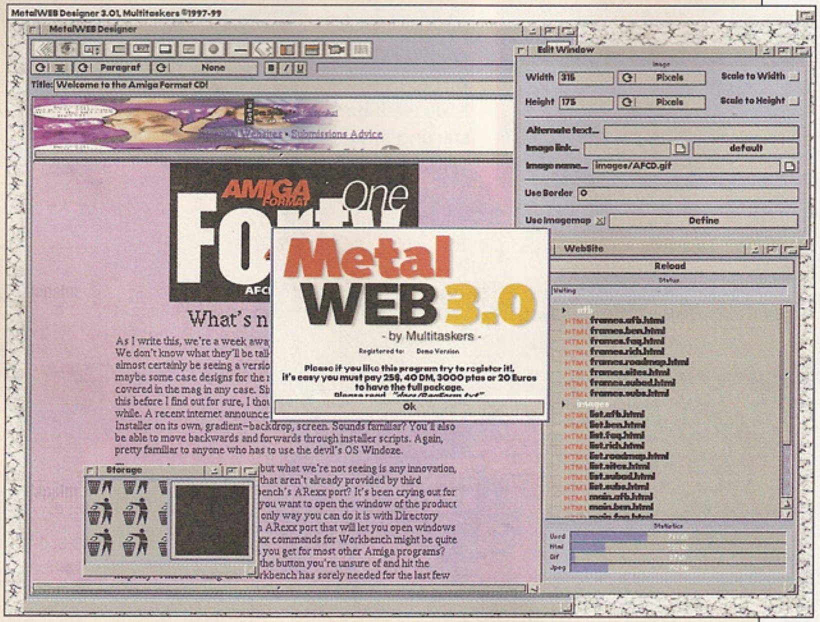
Many software packages exist for the PC to alleviate the drudgery of creating HTML documents, such as Microsoft's *FrontPage* or SoftQuad's *HoTMetaL*. Amiga users, on the other hand, usually have to resort to laying out HTML by hand in a text editor. Well, not any more.

***MetalWEB* is described as a WYSIWYG (What You See Is What You Get) HTML editor. In my opinion, this is actually a misleading term since what you get is dependent on which browser you're using, but I do see what they mean. *MetalWEB* allows you to piece together your document by dragging and dropping components onto the page and altering their attributes with nice pop-up menus and windows. You immediately see the effect of any changes you make. Everything (or at least almost everything) may be achieved with the mouse; there's none of that mucking about with HTML tags.**

A nice feature of *MetalWEB* is that it stores its documents purely as HTML – no external file format is required. This means you can load in any old page, it will parse it and then you can play about with it. It supports most HTML features, even frames, tables and image maps. It also has an ARexx interface and can integrate easily with any Amiga browser, a handy feature to verify *MetalWEB*'s accuracy at formatting your work.

The real problem with *MetalWEB*, though, is its lack of documentation (apparently this is forthcoming). I really didn't have much luck at all in creating my own pages with it. Maybe this is because some features are disabled – it is unregistered Shareware after all. Maybe there are bugs in the program or maybe it's just that the authors' idea of what's intuitive and mine are two entirely different concepts. Without some instructions, who can tell?

This is shame because *MetalWEB* is a potentially useful package, especially for novice web designers. I don't quite believe the claim that no HTML knowledge is required to use this system, but it's certainly much easier than doing it all by hand. Perversely, I do feel that the painless creation of HTML, as afforded by a package like this, is somehow cheating. I think I'll stick with using *GoldED* and *hsc*.



Take the misery out of web page design with *MetalWeb*.

BY: Multitaskers
WARE: Shareware
FROM AMINET: comm/www/metalweb.lha
SIZE: 493K
REQUIRES: MUI

Photo Folio

Photo Folio is an image cataloguing system. There are many such packages available, so before you turn the page in boredom, let me tell you that it's a rather good one.

Photo Folio is packed with features, but what makes it stand out is its interface. This is realised with *MUI*, which isn't out of the ordinary, but the execution of this interface is. What's unusual for an amateur package like this is that the GUI is multithreaded. In the multitasking spirit of the Amiga, you can happily perform a number of operations without waiting around for them to be completed and without any busy pointers slowing you down.

The layout and design of this interface is also very well done, and has plenty of context-sensitive pop-up menus to reduce any clutter. Other Shareware developers would do well to take note of these features.

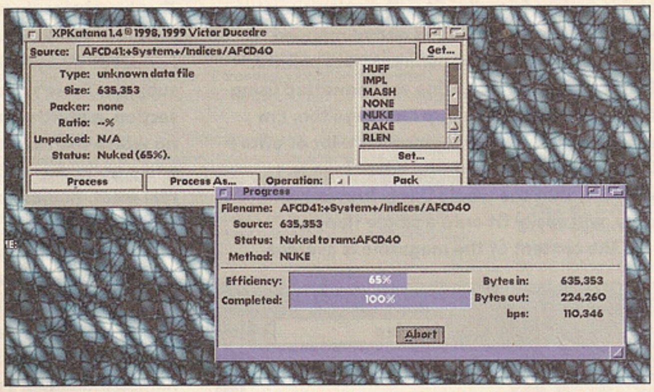
Basically, what *Photo Folio* allows you to do is scan any number of directories on your hard drive and it will create scaled-down thumbnails (the software calls them proofs) of any picture files it finds. It can save these thumbnails out in a separate directory automatically for easy reference and efficiency, and maintain a link between the proof and the original image.

You can then perform cataloguing and sorting operations on any or all of these, such as the ordering of pictures by owner and category. You may copy, rename, delete or even gamma-correct images. You can view any picture or selection of pictures in a window scaled to the size you desire.

Photo Folio's image loading and scaling is performed by the author's own set of supplied shared libraries or, optionally, with the Electronic Knight's render.library and guigfx.library, as used by *Scalos* and *MysticView*. The default libraries seem rather slow so I'd recommend the latter. In fact, the program is seriously processor intensive, so a well-specified Amiga is required for reasonable performance. A *CyberGraphX*-supported graphics card is also recommended since *Photo Folio* can interface directly with the *CyberGraphX* system.

Photo Folio is a complex piece of software so

XPKatana 1.4



So it may have a strange name, but *XPKatana* is actually rather useful.

Everybody must have heard of the *XpkMaster* system by now. It's a shared library by Dirk Stücker et al, which provides a standard, flexible and expandable interface for data compression and decompression to both users and programmers of the Amiga. It's a useful and ingenious system, but it lacks something in user-friendly tools for users to access its features with. This is where *XPKatana* comes in. It's a fully-featured GUI front-end for the xpkmaster.library.

***XPKatana* has been around for a while. It was formerly developed by Eric Sauvageau, but the project has now been taken over by Victor Ducedre. Earlier versions were prone to instability, but this new release appears to be rock solid.**

It boast loads of handy features too. *XPKatana* has a simple and compact *GadTools* interface with progress bars, keyboard shortcuts and drag-and-drop via an AppIcon. There's an ARexx interface for external control and which allows the recording and replaying of scripts to automate the batch processing of files. Scripts supplied allow integration of the system with *DOpus* and *Final Writer*, or permit unpacking from the default tool of an icon in conjunction with the *DefIcons* package.

File identification is optionally supported using Victor Lange's FildID.library and the unpacking of 'foreign' file formats (non-*XPK* packed files), optionally supported using xfdmaster.library.

***XPKatana* is efficient and easy to use. You merely select a file, select the cruncher you want to use and go. Unpacking, re-packing and testing modes (a special mode to test a particular cruncher's efficiency) can be selected via a cycle gadget. My only complaint is that an 'automatic' mode would have been a useful extra: it could detect already crunched files and unpack them, and pack files that weren't crunched. Nevertheless, *XPKatana* remains a valuable addition to anybody's toolbox.**

BY: Victor Ducedre
WARE: Shareware
FROM AMINET: util/pack/XPKatana.lha
SIZE: 103K
REQUIRES: xpk.library



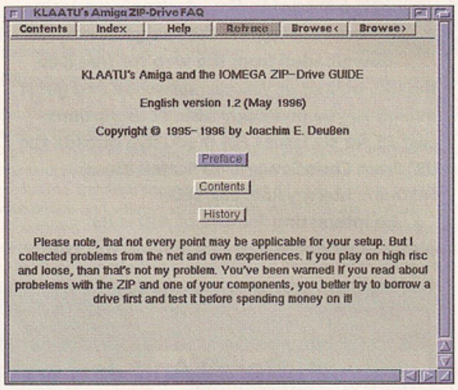
Organise that mountain of picture files stored on your hard disk with *PhotoFolio*.

it may take you some time to fully get to grips with it. However, if you have a large collection of image files on which you want to instill some order, this program provides you with a powerful way to do it.

The only real shortcoming of *Photo Folio* is the lack of an ARexx port, which is apparently on the authors' to-do list.

BY: Paul Huxham and Steve Quartly
WARE: Shareware ($20)
FROM: Classic Amiga
DISKS: 1
PRICE: £1 (+50p P&P)
REQUIRES: MUI

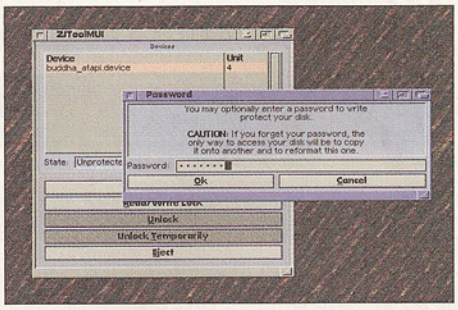
Essential iomega Zip Tools

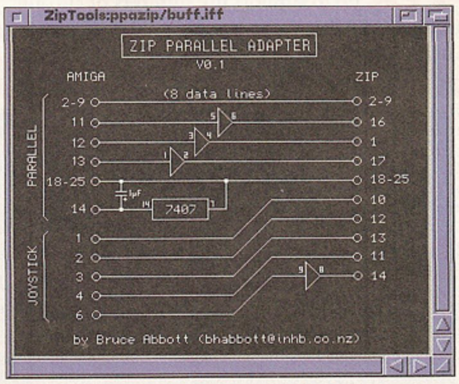


Typical of the narrow-mindedness of hardware manufacturers, iomega ship their excellent Zip drives with no support software for the Amiga. But never mind, the ever-creative Amiga public have made their own versions over the last few years. This disk is a collection of some of these.

Essential iomega Zip Tools contains documentation, mount lists and tools to ease the life of the Amiga Zip owner. Software is provided to format, write protect and password protect disks and more. Mount lists are included which function with commercial file systems such as *CrossDOS* and *CrossMac* and will ensure the portability of your data. Easily the most interesting item in this collection is a hardware project to connect up a parallel port Zip drive to Amigas with no EPP interface.

Much of the content on this disk is rather dated, but most will prove highly useful for the existing or aspiring Zip owner.





So what if iomega don't supply Amiga software for their drives? Get *Essential iomega Zip Tools* instead.

BY: Various
FROM: Online PD
DISKS: 1
PRICE: 75p (plus 75p P&P per order)

Continued overleaf ➡

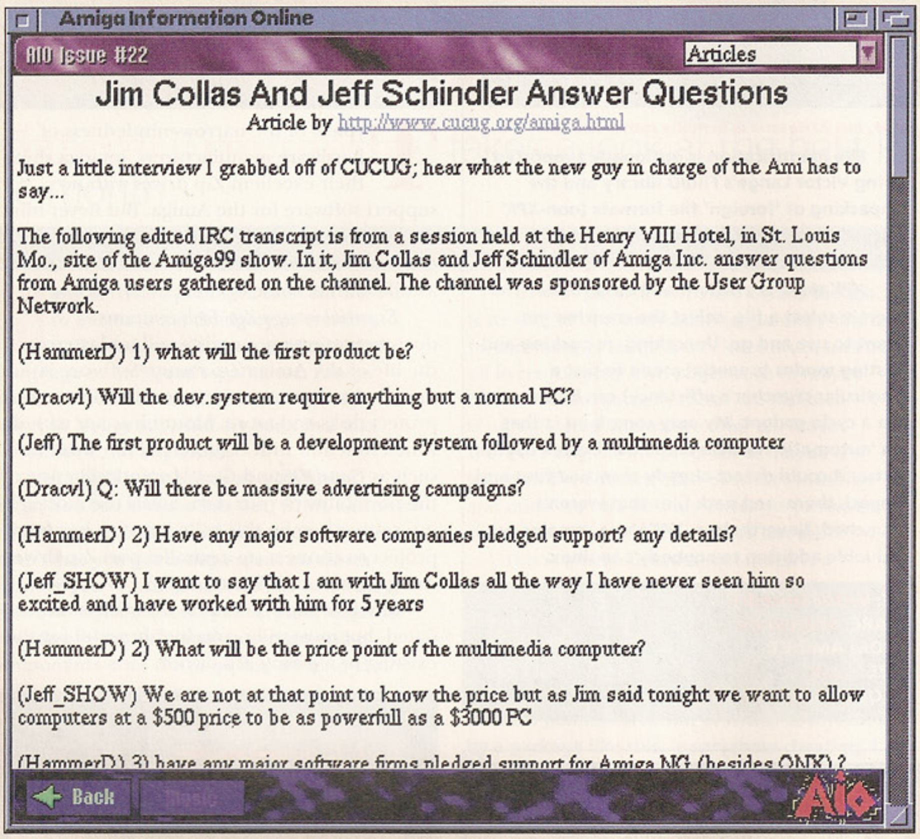
AIO Issue #22

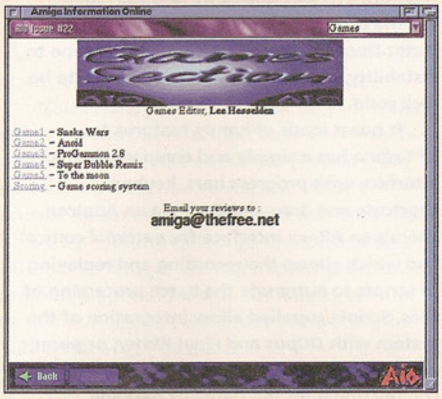
AIO is a long-standing electronic magazine whose sole topic is the Amiga. It may be downloaded from the web for free (see the URL below) or you can subscribe and get it mailed to you on floppy disk. Subscriptions cost £5 for six issues (£6 if you live outside the UK) from Chris Seward, 10 Scafell Close, Fastham, Merseyside, L62 9EU.

An interesting feature of *AIO* is its custom-made, browser-like viewer. This front-end is system friendly – it will display on your Workbench screen, re-sized and re-mapped to your own particular screenmode and palette. The pages of the magazine are formatted using their own special mark up language too. I'm sure they would save themselves a lot of effort by using HTML instead. The advantage is, I suppose, that the whole thing, browser and copy, will easily fit onto a single floppy.

The content of the magazine is average. They've obviously tried hard to mimic the layout of print magazines such as *Amiga Format* as everything is nicely divided into subjects. There's a news section, a games section, a utilities section, etc. The writing is no worse than any other amateur production and a good deal better than some. It lacks any real meat, however; much has just been leached from other Amiga websites. The features section is amusing, though, containing an interview with the irrepressible Petro Tyschtschenko in which he neatly avoids saying anything at all, and Dr Strange, Web Wander, an eclectic account of this oddly-named individual's meanderings on the net.

At this price you can't complain though. If you need something to supplement your intake of Amiga-oriented information until the next issue of *Amiga Format* appears in the shops, you can't really go far wrong with a copy of *AIO*.





AIO is one of the better electronic magazines that we've seen.

BY: Chris Seward (editor)
WARE: Free
FROM: http://www.amiga1.demon.co.uk/aio/

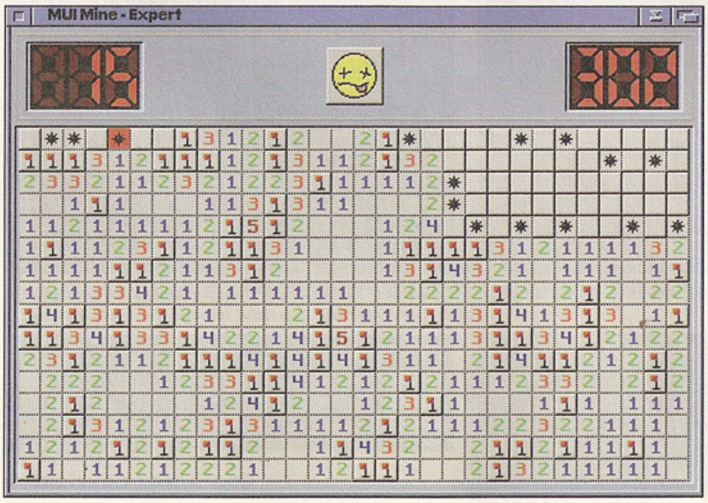
MUIMine v1.2

Minesweeper is one of those games where telephone helplines ought to be set up to support the sufferers of chronic addiction. I don't wish to give too much away, mainly to protect those as yet unsullied by its seductive charms, but it's a game which is devastatingly simple in concept and yet totally fiendish to play.

MUIMine is the latest incarnation of *Minesweeper* on the Amiga and is easily the best looking and most playable. It has loads of neat touches, like completely configurable difficulty levels and the ability to save high scores for each level. It also allows you to load in different image sets to use with the game.

Supplied sets include versions to suits standard four-colour screens, *MagicWB* screens and screens with more free colours. The author has also sneaked in an image set pinched from *Doom*, for use instead of the usual smiley yellow button-thing.

This edition is completely faultless. If you really want to halve the productivity of your Amiga in a single stroke, you should download a copy of *MUIMine* today. Don't say you haven't been warned, though.



***MUIMine*: its elegant, simple and frighteningly addictive to play.**

BY: Geoffrey Whaite
WARE: Freeware
FROM AMINET: game/think/MUIMine.lha
SIZE: 154K
REQUIRES: MUI

netconnect £49.95



program : netconnect
version : v2.3
format : cd-rom or floppy disks
available : yes
awards amiga format gold, 96%, cu amiga 94%
amiga magazin (DE) 85%, amiga plus (DE) 85%

The award-winning **NetConnect v2** is the easiest and most comprehensive Internet compilation designed to enable any Amiga user, from novice to expert level, to get onto and use the Internet. By using the new Genesis Wizard, a user should be able to connect to the Internet in a matter of minutes. Containing Genesis, Voyager-NG, Microdot-II, AmIRC, AmFTP, AmTelnet, AmTerm, NetInfo, AmTalk, X-Arc and the Contact Manager. Ideal for both an Internet or local area network connection.

- *Eleven Commercial Programs* - contains the highest quality Internet software, all commercial versions.
- *Truly Integrated* - the beauty of NetConnect v2 is the integration. Contact Manager works with Microdot-II, Voyager, AmIRC and more. Centralised MIME preferences works between all the programs.
- *Flexible Dock Bar* - setup and launch all your software from this advanced and flexible tool bar
- *Aimed Towards Beginners Through to Advanced Users* - NetConnect v2 is simple enough for the beginner to use to connect to the Internet for the first time, but powerful enough for the advanced user who may require a dialup connection and local area network (LAN).

dopus magellan II new £49.95



program : dopus magellan II
version : v5.8
format : floppy disks
available : yes
awards amiga format gold, 95%

Directory Opus Magellan II is a complete Workbench replacement and/or file management based system. Magellan-II offers everything from file management (copy, rename, view, extract etc), dock bar creation (create your own dock bars - to launch programs, commands, scripts), advanced FTP functionality (with asynchronous operation), custom themes (24 bit icons, different backdrops, custom sounds and scripts, improved user and start menus (ala Windows start menus), greater lister functionality (with full drag and drop), custom menus and much more. Magellan-II is indispensable. Once installed and used, you will never want to go back to your 'original' Workbench ever again.

stfax professional £29.95



program : stfax professional
version : v3.7
format : floppy disks
available : yes
awards amiga format gold, 95%, cu amiga 95%
amiga magazin (DE) 89%, Amiga Plus (DE) 96%

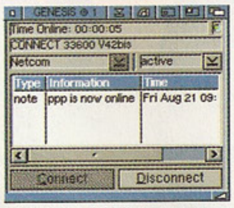
STFax Professional is a commercial fax/voice message program which enables you to use your Amiga as a digital answermachine. Send and receive faxes, create a simple or advanced tree based digial answer system for family members, create a fax on demand service, log numbers via caller-ID, call screen or blacklist phone numbers, setup a mini-BBS, use your modem as a telephone, control other programs etc.

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- *Mini-BBS* - setup your own small BBS
- *ScanQuix support* - use ScanQuix to directly scan documents from your scanner into STFax!

genesis £29.95



program : genesis
version : v1.0
format : floppy disks
available : yes
awards



Genesis is a new TCP/IP stack for the Amiga computer, allowing both dialup Internet access and local area networking, with the advanced facility to run more than one interface at one time (ie. keep your ethernet network connected, whilst putting your dialup connection on and offline - ideal for Siamese users, LAN'ing one or more Amiga's or an Amiga to PC/Unix/etc).

amigawriter £49.95



program : amigawriter
version : v1.2 (english version)
format : floppy disks
available : yes
awards amiga magazine (DE) 87% 'very good'.

AmigaWriter is the newest word processor (or word creating) package for the Amiga. Officially ratified by Amiga International, thus supported by the "*Powered by Amiga*" logo, AmigaWriter contains some unique features for Amiga word processors: platform independent (full support for commercial, shareware or freeware plugins), ease of use (easy selection, true WYSIWYG, very Amiga-alike in action), full paragraph control, page formatting, chapter management, support for different image formats and much more. All version 1 users will receive the forthcoming version 2 free of charge (due late 1999).

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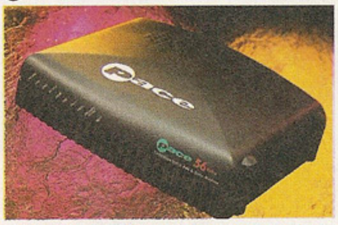
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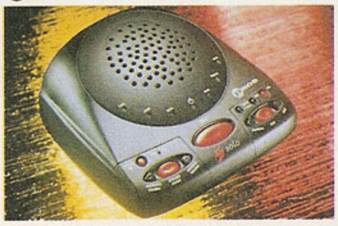
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pace External 56K Modem



pace 'Solo' 56K Modem



Dynalink 56K External Voice/Fax/Data Modem	£69.95
PACE 56K External Voice/Fax/Data Modem	£119.95
PACE 'Solo' 56K External Voice/Fax/Data Modem	£189.95

modem pack options from £79.95

Various money saving packs are available. These are all based on the Dynalink v90 modem. Packs based on PACE 56K or PACE 'Solo' 56K modems available as an additional cost option.

Code	Pack Contents	£ Prices
PK01	56K Modem & STFax Professional	£ 79.95
PK02	56K Modem & NetConnect	£ 94.95
PK03	56K Modem & NetConnect & STFax Professional	£105.95
PK04	56K Modem & NetConnect, IOBlix-S, STFax Pro	£129.95
PK05	56K Modem & NetConnect, IOBlix IO, STFax Pro	£169.95

ADD £40 for a PACE 56K Modem (instead of the Dynalink 56K)
ADD £110 for a PACE 'Solo' 56K Modem (instead of the Dynalink 56K)
DEDUCT £30 for a Hypercom 3+ card (instead of the IOBlix IO card)

- All packs come with **free**, unlimited Internet connection - three options available
- Choose between the CD or Floppy disk version of NetConnect v2 with your modem pack

home highway - ISDN from £89.95

With the launch of BT's 'Home Highway', ISDN is now affordable for the home user. Our branded Dynalink 'MagicXpress' terminal adaptor enables you to connect to the Internet at blazingly fast speeds (you need a high speed serial card to use ISDN). Various ISDN packs are available:

Code	Pack Contents	£ Prices
ID01	External ISDN Terminal Adaptor (TA)	£ 89.95
ID02	ISDN TA & NetConnect	£114.95
ID03	ISDN TA & NetConnect & IOBlix-S	£149.95
ID04	ISDN TA & NetConnect & IOBlix IO zorro card	£179.95

- All packs come with **free**, unlimited Internet connection - one option available
- Choose between the CD or Floppy disk version of NetConnect v2 with your modem pack

high speed serial cards from £39.95

The new ***IOBlix*** card offers 4 high speed serial ports and 1 (2nd port option) high speed EPP/ECP parallel port to your zorro based Amiga. The parallel port offers both uni and bi-directional modes, offering compatibility for all printers. Parallel ZIP™ driver included. The ***IOBlix*** also has a modular interface. Two modules are currently being developed: an AHI-compatible sound card and a SANA-II compatible ethernet card (the ***IOBlix-E***, due soon). The ***IOBlix A1200-S*** offers 1 high speed serial port, the ***IOBlix 1200-P*** offers 1 high speed parallel port. Both designed for A1200 towers. The new ***Hypercom 3+*** offers 2 high speed serial ports and 1 high speed uni/bi directional parallel port.

Model	Machine	Specifications	Price
IOBlix-S	A1200-T	1 x 460,800bps highspeed buffered serial port	£39.95
IOBlix-P	A1200-T	1 x uni/bi 500k bytes/sec parallel port	£39.95
Hypercom3+	Zorro-2/3	2 x 460,800bps highspeed buffered serial ports, 1 x uni/bi 500K parallel port	£69.95
IOBlix	Zorro-2/3	4 x 460,800bps highspeed buffered serial ports, 1 x uni/bi 500k parallel port	£89.95
IOBlix-E	Zorro-2/3	Ethernet module for IOBlix zorro IO card	£ call

miscellaneous software

Various other individual software titles are available. These titles may be interesting to those not wanting to purchase NetConnect v2.

	By Disk	By EMail
Scalos - workbench replacer with advanced features	£20.00	£18.00
Voyager Next Generation	£22.00	£20.00
Microdot-II v1.1 (release) - email and news client	£22.00	£20.00
AmIRC	£22.00	£20.00
AmFTP	£20.00	£18.00
AmTalk	£17.00	£15.00
X-Arc - system archive management tool (handles lha, lzx and zip archives)	£17.00	£15.00
Contact Manager - system addressbook, works with many net/comms programs	£12.00	£10.00
AmTelnet + AmTerm Package Deal	£20.00	£18.00

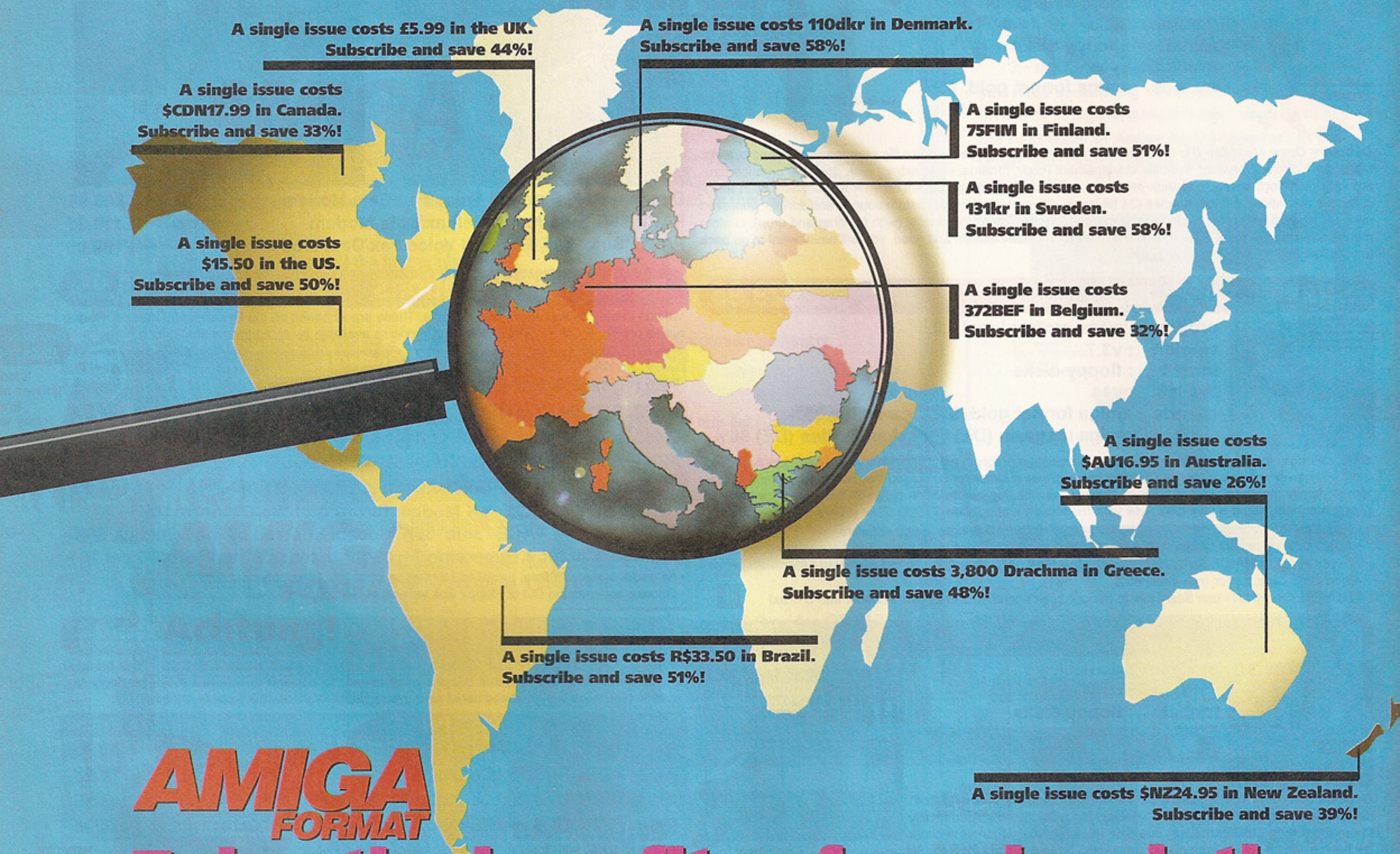
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CD CODE: AFC040

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MULTITASKING GAMES
11 top games to play while you're Amiga's doing something else, including *MiniArcanoid* and *WBrain*.

The PowerPC was supposed to revolutionise the Amiga. We take an in-depth look at the PPC scene and predict its future potential.

AFCD40
The CD is packed with dozens of OS-friendly games this month, such as *WBsteroids*, *Maniac Ball* and *Soliton*. There's also *LinuxAPUS*, *VBCC*, *ModePro*, all your stuff and lots more!



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CD CODE: AFC039

Issue 123

Coverdisks
There's the best AmigaGuide authoring system, *Heddley 1.2B*, plus *Wargrounds*, a homage to *Dune II*.



DISK CODE: AMF122

CD CODE: AFC038

Issue 122

Coverdisks
Protect yourself with *Virus Checker II* and hone your reactions and arcade skills with *Marbelous 2*.

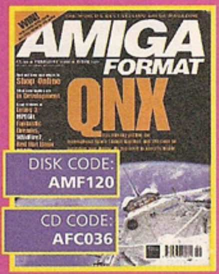


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Issue 121

Coverdisks:
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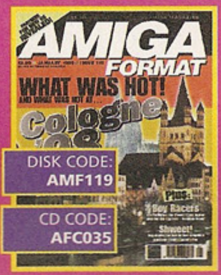


DISK CODE: AMF120

CD CODE: AFC036

Issue 120

Coverdisks:
Build an LCD display with *LCDaemon* and find mushrooms and mystery in our superb *Gilbert Goodmate* demo.



DISK CODE: AMF119

CD CODE: AFC035

Issue 119

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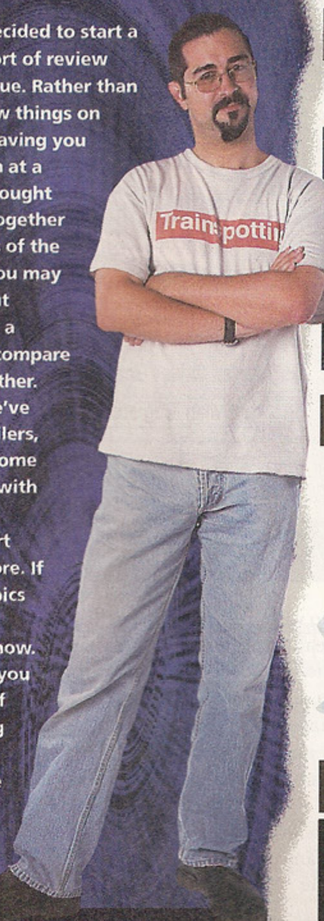
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In-depth reviews of hardware and software that you can trust.



We've decided to start a new sort of review this issue. Rather than reviewing all new things on their own and leaving you to compare them at a later date, we thought we should pull together several packages of the same sort that you may be thinking about purchasing to do a specific job and compare them to one another.

This issue we've gone for C compilers, but in issues to come we'll be dealing with *BASIC* packages, graphics cards, art packages and more. If you have any topics you'd like to see covered, let us know. Other than that, you get the benefit of me finally buying a colour inkjet in our review of the Epson. Hope it's not too biased!

Ben Vost

AMIGA FORMAT'S REVIEW POLICY

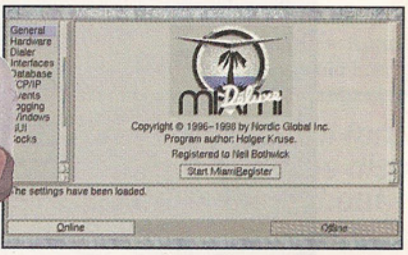
... is very simple. ***Amiga Format*** is written by nearly all of the most experienced Amiga users in the world and what we say goes. OK?

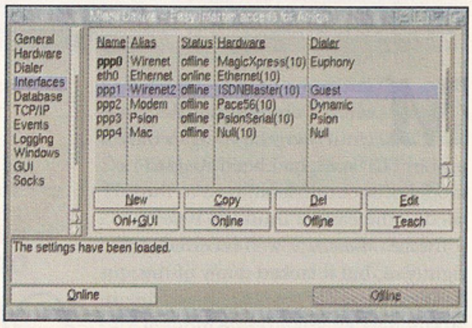
WHAT OUR REVIEW SCORES MEAN

90+%	The crème de la crème. Only the very best, most versatile and effective products are awarded an ***AF Gold*** – the most highly prized rating there is.
80-89%	These products are very good, but there are minor flaws or areas that could be improved upon.
70-79%	Not a bad product but quite possibly one that needs a serious update.
60-69%	Average products with somewhat limited features and appeal. Products in this category tend to be flawed.
50-59%	Below average products which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality products with major flaws.
Under 40%	The absolute pits.

48 MIAMIDX

Neil Bothwick talks you through the power user's version of this TCP stack.





Take two interfaces into the shower? You need *MiamiDX.*

50 EPSON PRINTER

Ben Vost bought one and thinks you should too, but don't forget to buy *TurboPrint* too!



The Epson Stylus Photo 700. Longwinded, eh?

51 WARPUP

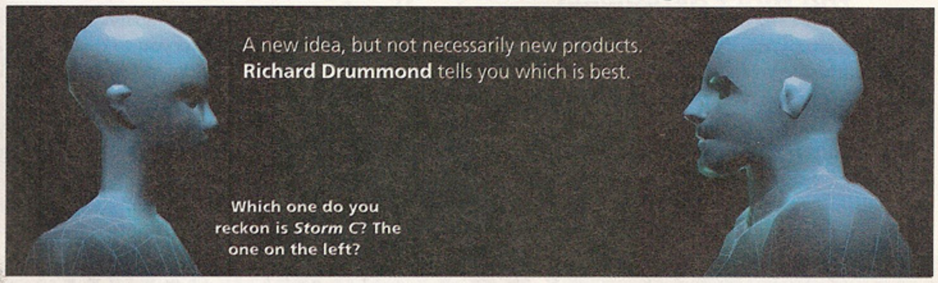
Richard Drummond gives you the lowdown on the latest way to drive your PPC.



This should end those WUp/PUp arguments.

52 HEAD-2-HEAD: C COMPILERS

A new idea, but not necessarily new products. **Richard Drummond** tells you which is best.



Which one do you reckon is *Storm C*? The one on the left?

55 MAGIC EXPRESS

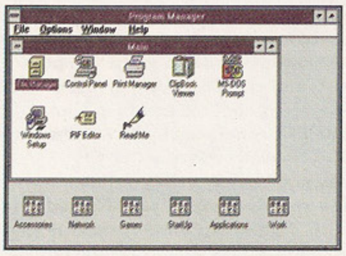
Neil Bothwick likes ISDN, but will he like Dynalink's attempt at it?



It looks just like a modem, only it's much, much faster.

56 READER REVIEW

Nick Lamburn extols the many virtues of *PCx.*



Ugh, Windows. Don't you just hate it?

58 WORKBENCH

John Kennedy lassos your questions and heads for the ranch.



Keyboard adaptor, anyone?

62 AMIGANET

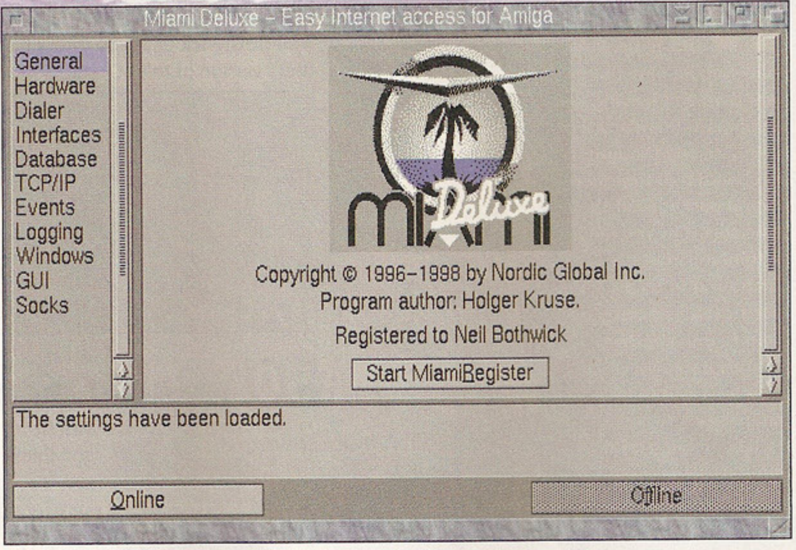
Dave Cusick gets ready for the new look Amiga.net, coming next issue.



Tunes for your mobile.

MiamiDX

Neil Bothwick looks at the beta version of *Miami* and finds out if it's a better option than *AmiTCP*.



***MiamiDx* is classed as beta software, although it's publicly available and you have to pay to use it.**

Miami was a breath of fresh air when it was first released. Until then the Amiga's only usable TCP stack had been *AmiTCP*, a model of user-unfriendliness to those used to the ease of Intuition-based software. *Miami* was well received, and rightly so, but it lacked many of the power features of *AmiTCP*. It was fine if all you needed was a single modem connection, but many people needed more and waited for *Miami*'s successor.

After some delay a public beta of *Miami Deluxe* (*MiamiDx*) was released last autumn. The main advantage of *MiamiDx* over its little brother is that it can handle multiple interfaces, the Amiga can now talk to the Internet and a local network simultaneously, even acting as a gateway to the Internet for other machines on the local network.

> *MiamiDx* is the most fully-featured Amiga TCP stack I've used, although it's also the most expensive.

It's at this point that users of AmiTCP/Genesis say "So what? We've been able to do that for years," but *MiamiDx* adds features not found on the Amiga before now.

Before we go any further, let's clear up what we mean by "multiple interfaces". This has nothing to do with the alternative user interfaces already offered by *Miami*, the choice of *MUI* or *GadTools*. In fact, *MiamiDx* only has a *MUI* interface for now. The interfaces in question are network interfaces, either PPP interfaces to a dialup Internet account or connections to a local network using ethernet or null-modem. *MiamiDx* allows you to create as many of these as you like, and take each one online and offline independently, although you can't have two interfaces that use the same modem online at the same time, for obvious reasons.

MiamiDx is still classed as beta software, but it's publicly available and you can't use it without paying for it, so it should be viewed as commercial software, irrespective of the beta label.

The first casualty of the beta status is the lack of documentation, although much of the information in the standard Miami.guide is applicable. Any question not covered in there will be quickly answered on the *MiamiDx* mailing list.

SETTING UP

The use of multiple interfaces has led to changes in the way preferences are set. *MiamiDx* uses a modular approach where hardware and dialler settings are separate from the actual interfaces. The obvious use of this is where you have accounts with several ISPs (and who doesn't in these days of a free ISP on every corner?), but all will use the same modem settings. The hardware section contains the settings for your modem, terminal adaptor, Ethernet or null-modem link. The dialler section contains login details, phone numbers and passwords. You then select the hardware and dialler for each interface.

Initial installation is a case of running the standard *Miami 3.2* installer and then installing *MiamiDx* over the top of it. Initial configuration simply involves running *MiamiInit*, saving out the results and then importing them into *MiamiDx* – there's still no option to have the results of *MiamiInit* added directly to *MiamiDx*. However, more advanced configuration can be slightly more tricky due to the lack of specific documentation for *MiamiDx*. Features that are also in *Miami* are covered in

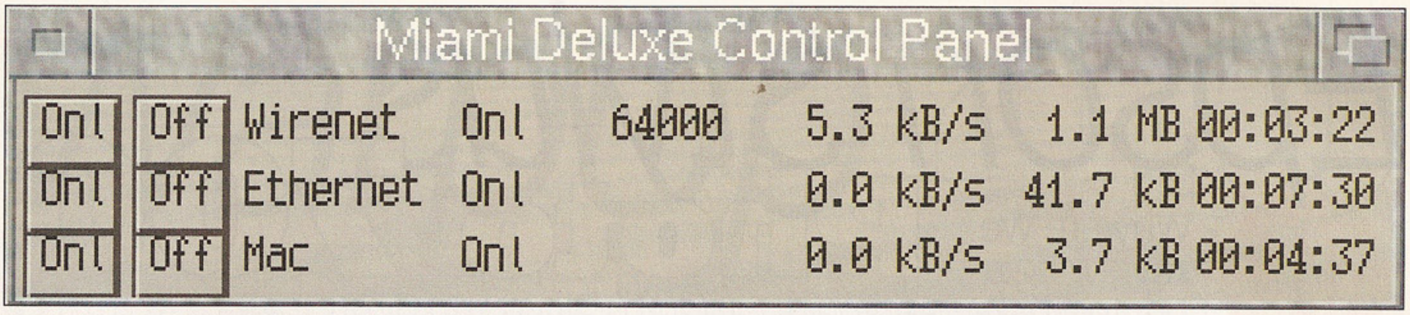
USING AN AMIGA AS A GATEWAY WITH MIAMIDX

If your Amiga is part of a local network and also connected to the Internet, you can use it as a gateway so all machines on your local network can access the Internet. There are two stages involved, making the Internet available to the computers on your network and ensuring that the rest of the world doesn't get unlimited access to your network. The first is handled by IP-NAT, the second by *MiamiDx*'s firewall options.

First you need two working, tested interfaces. Let's assume ppp0 is a correctly configured modem connection to the Internet with dynamic IP (the process is the same with a static IP) and eth0 is your connection to the LAN (Local Area Network) with an IP address of 192.168.1.1. Set the Gateway priority to 10 for ppp0 and zero for eth0. You also need to make sure there's at least one static DNS address specified in the database. Setting up IP-NAT to gateway is simplicity itself: in the TCP/IP section of *MiamiDx* you make sure that the Gateway box is ticked and then you open the LAN-Connect window. Here you check that ppp0 is set to Internet and eth0 to LAN, with IP-NAT set to Internal on both. Tick the FTP box, save the settings and that's it.

Now you need to set up the other machines on the LAN. This is even simpler because IP-NAT works transparently. All you need to do is set the gateway for each machine to 192.168.1.1 (i.e. the address of the gateway machine) and put the DNS address used by the gateway in the DNS setting for the other machines. The other machines don't need to be running *Miami*; they don't even need to be Amigas.

Now, when your ppp0 interface is online, all machines on the network can access the Internet. Because they're all "hiding" behind the address of the gateway, they don't have their own identities on the Internet and there's no way for other machines to access them – they're secure. This isn't true of the gateway of course, but you can prevent access from outside by setting the firewall to "auto" in the TCP/IP section.



There's a lot going on in this small window. The first interface is downloading from Aminet, the second is browsing the web on another Amiga and the third is viewing a page in *Netscape* with *Fusion*, all through a single Internet connection.

Miami's documentation and it's generally clear how to do the same in *MiamiDx*. The new "power" features of *MiamiDx* are as yet undocumented so there's a certain amount of trial and error involved. This is not good since the extra features are probably the main reason for buying *MiamiDx*, although documentation is now filtering through on some of the new features.

Having interfaces to two separate networks online at the same time is useful, and even more useful is the ability to link those networks so a machine on one may access the other network. This can be done in one of two ways: SOCKS or IP-NAT. IP-NAT is the easier way to do this and *MiamiDx* has the only implementation of it for the Amiga. See the boxout on these pages for more details.

Adding all these features to the original *Miami* could have made the GUI cumbersome, but it's been refined to be more logical and much easier to use. A good example of this is the new Control Panel.

> **Choosing a small font gives a compact status display to keep you informed, without wasting any screen space.**

I always felt that having the full GUI open just to put your modem on or offline was unnecessary, and the new Control Panel is a very small window containing only Online and Offline buttons, along with statistics on each interface. These include time online, connect speed, transfer rate and total data transferred.

You can choose which statistics to show and which interfaces to show them for. Choosing a small font gives a compact status display to keep you informed, without wasting any of the screen space.

EXTRA TOOLS SUPPLIED

MiamiDx comes with a full set of network tools, equivalents of the standard ping, traceroute, resolve and so on, as well as new FTP and telnet clients. *MiamiFtp* is a command line FTP client, a replacement for the venerable *ncftp*. *MiamiTelnet* is a fully-featured telnet program with an SSH-compatible secure Shell mode. This uses *MiamiDx*'s SSL security encryption to maintain secure connections when the remote server supports it. Auto-online is another useful feature, although one to use with care if you pay phone bills while online.

Setting an interface as auto-online means that when any program tries to contact a machine on the Internet, that interface will automatically dial up and go online. You can also set the interface to go offline after a certain period of inactivity. Otherwise one attempt to check your mailbox could result in your modem being left online for hours.

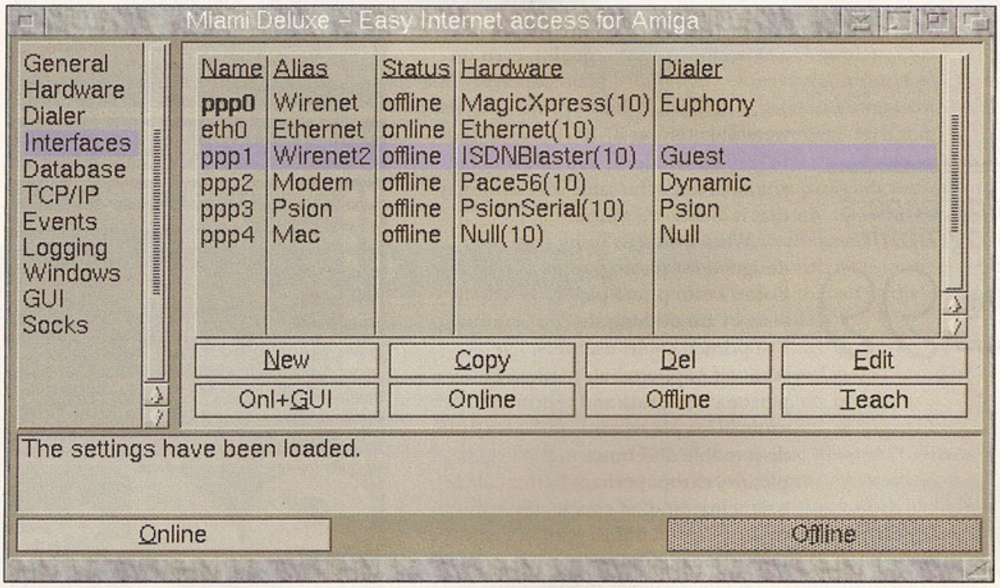
A few of the enhancements to *MiamiDx* are also present in *Miami* now. One of these is the MNI drivers for network cards. These provide direct communication between *Miami* and the card, instead of going through a separate SANA-II driver. The result is faster transfers, although it means you can't use SANA-II at the same time. This also means that any other network software, such as *Envoy*, must also use the MNI drivers.

MiamiDx is the most fully-featured Amiga TCP stack I've used, although it's also the most expensive. However, if you need the extra features it offers, it's well worth the price.

NETWORKS WITHOUT ETHERNET

The gateway example uses Ethernet for the LAN, but you don't need expensive hardware to connect a network to the Internet. A parallel port or null-modem cable connection between two Amigas will also enable you to connect both machines to the Internet at the same time.

Using nullser.device (available on Aminet), you can network an emulated Mac running under *Fusion* or *ShapeShifter* with the host Amiga. Until now, if you hit one of those obnoxious websites that insist on you using *Netscape* or *Internet Explorer*, you were forced to take the Amiga offline and use the Mac's TCP stack to run the software you needed. Now you can simply start the emulator, fire up the browser and do what's needed while still chatting with *AmIRC* or downloading files with *Opus*.



A range of PPP, Ethernet and null-modem interfaces, to be used singly or in combination.

SUPPLIER: Nordic Global Inc
http://www.nordicglobal.com
PRICE: $60 (approx £38.50)
REQUIREMENTS: OS 2.04, MUI

Pros and Cons

- \+ Wide range of features.
- \+ Transparent Internet gateway.
- \+ Useful utility programs.
- − Lack of docs so hard to use.

OVERALL VERDICT:
An excellent solution for the power user.

91%

Epson Stylus Photo 700

AMIGA GOLD FORMAT

Why are we reviewing a printer that's been out for months already? I dunno, ask **Ben Vost**.

Although the march of time, umm, marches onwards, there may never be a better time to buy a new colour printer. The Epson Stylus Photo 700 has recently been superseded by a newer model (the 740), which means that you can now buy one of these beauties for a mere £150 or thereabouts. This is a great deal with one proviso. Consider the amount of money you're saving on this printer compared with how much you'd have to spend on the new model (about £230), and then think not only of the eighty quid saving you've just made, but also of how you're going to drive this printer satisfactorily.

Yes, you can use standard preferences drivers, and even *PageStream 3* outputs a page faster than *TurboPrint*, but the quality is just not there. I made sure that I got *TurboPrint* at the same time as I got the printer and you should too.

The printer itself is the latest-but-one in a long line of Epson printers, all getting progressively better. This one has a separate cartridge for black, on the grounds that you really don't want to have to throw away a perfectly good colour cartridge purely because you used up all the black contained therein, and the colour cartridge doesn't have the more familiar three colours of pink, yellow and light blue (or magenta, yellow and cyan as they're known to those of us in the printing trade), but a set of six inks designed to ensure that every hue you print matches as closely as possible to the image on the screen.

> **When you start using papers designed for photographic output, the results you get are nothing short of stunning.**



The Epson Stylus Photo 700 in all its glory. Our CD compiler particularly likes the smoked glass effect...

In use the Stylus performs well, outputting text and graphics beautifully (the original Stylus Photo wasn't so good with text), to the point where images can almost be said to be photographic quality, even on plain paper. My first inkjet printer was the venerable Canon BJ-10 (not even the "e" or "ex" model!), and this is so far ahead of it for the same sort of money that it makes me wince.

When you start using papers designed for photographic output, like Epson's own photo paper, the results you get are nothing short of stunning. I've printed t-shirt transfers, I've scanned in photos, airbrushed out persona non grata and reprinted them onto Stylus photo cards with very little discernable difference to the original picture, except perhaps better colour balancing (and, of course, the removal of the person I didn't want in the photo in the first place).

It may sound as though I'm a recent convert to the cause, and while it may be that I don't print every picture out from now on and revel in its quality because the novelty has worn off, and the cost is becoming more apparent, I can honestly say that I'm gobsmacked by the quality achievable for such a low price. It makes me wonder why we use expensive proofing printers here, apart from the fact that the Epson Stylus can't deal with *PostScript* directly.

The printer is pretty quiet while printing, as you'd expect from an inkjet, and the output comes out fairly fast, depending, of course, on what sort of processor you have and how big the graphics are that you're trying to print. The six inks ensure that the picture is pretty colour accurate and replacement inks, while expensive if you buy Epson's own brand, come pretty cheap if you buy third party products such as those supplied by EMComputergraphic.

At the current price, this really has to be an essential purchase for every self-respecting Amiga owner. AF

SUPPLIER: A wide variety of dealers
PRICE: About £150

Pros and Cons

- Excellent picture quality.
- Good text quality.
- Fast.
- Quiet in operation.

OVERALL VERDICT: If you haven't already done so, now's the time to buy a colour printer!

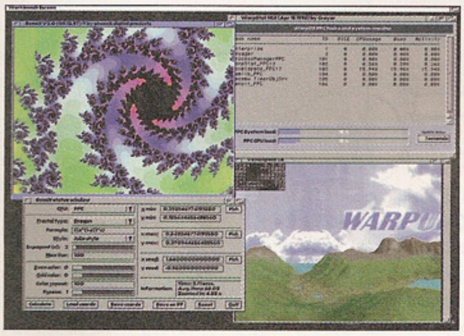
94%

WarpUp 4.0

With the release of version 4.0 of ***WarpUp***, is the war of the PPC kernels finally over? **Richard Drummond** finds out.

WarpUp is Haage and Partner's alternative to phase 5's PowerUp software. Both are minimal PPC operating systems which attempt to integrate the PPC processor into the rest of the 68K-based AmigaOS. The WarpUp vs PowerUp debate has been a thorn in the side of PPC software development for the last year. Could it now be over?

This latest release of WarpUp has an experimental emulation of the PowerUp system so that users can potentially run both WarpUp and PowerUp software simultaneously.



WarpUp and PowerUp programs can co-exist under the new emulation.

WARPUP VS POWERUP

One of the biggest criticisms of phase 5's PowerUp accelerators has been the performance loss caused by context-switching. This is the time lag suffered when switching between a program running on the PPC processor to one running on the 68K or vice versa, and it occurs whenever a PPC program requires services from AmigaOS. The performance cost can be so great that software designed to use both processors can actually end up being slower than the same program running on the 68K alone.

WarpUp was created to provide faster context-switching than phase 5's solution. While this fact might be held up by benchmarks, when comparing real software there's actually very little difference in performance between the two. So, what else does WarpUp offer?

Well, the main advantages afforded by WarpUp will only be seen by hardware and software developers. WarpUp is hardware independent: to allow the system run on any new hardware, all that's required is a new plug-in driver. Also, WarpUp is easier to develop software for since it's closer in spirit to, and integrates more cleanly with, AmigaOS. Nearly all of WarpUp's functions and structures are extensions to existing AmigaOS ones and so are instantly familiar. Also, rather than using the alien ELF format like PowerUp, WarpUp employs an extension of the Amiga's hunk format for storing executables. This allows the creation of mixed- and fat-binary executables and shared libraries which can be loaded without any special commands or patches.

The most obvious benefit to users is that the WarpUp distribution is so much more friendly and orderly, with a proper installer and extensive documentation. The presentation is a big improvement over phase 5's.

KERNEL CHAMELEON?

The PowerUp emulation in WarpUp has been created by Frank Wille. It provides a PowerUp-like API on top of WarpUp. This is rather ironic as things worked the other way around with the early pre-releases of WarpUp. The emulation comes in the form of a replacement version of PowerUp's ppc.library. The problem with the Blizzard cards is that this library exists in ROM and hence is already present at boot time. Fortunately, a special patch is supplied which warm resets the machine to restart with a clean sheet. You're then free to to load in the ersatz ppc.library from disk.

A large percentage of the functionality of PowerUp is covered by the emulation so many programs should work, including software like *PPC UAE, Benoit, Isis, ADoomPPC, Vaxen,* and Andrew Kleinert's *AKDatatypes.* Notable things that don't work include the PPC RC5 client and *MAME.* Some people have actually claimed better performance with some software under emulation; there certainly shouldn't be any performance loss.

AND THE WINNER IS...

While it might be possible to argue the merits of WarpUp over PowerUp, or indeed vice versa, the really tragic thing is that to the end-user is doesn't particularly matter. The average Amigan isn't really concerned about the technical advantages of one or the other; he or she just wants to use whatever PPC software they wish to. Alas, the confusion and incompatibility generated by the competing solutions has made this impossible.

At the moment, however, it does look as if WarpUp is the winner. Developers tend to be selecting this kernel for any new software they create, especially games. And WarpUp appears to be the choice for the future: it'll be shipped with AmigaOS3.5, the new G3 cards being designed are planned to use it and H&P's long-awaited 68K emulator requires it. With no ill intent to phase 5, I sincerely hope this is the case. Then we can all get on with the serious job of writing and using PPC software and reap the performance benefits that the PPC processor has to offer. Amiga Inc., how about a statement to this effect?

NEW IN VERSION 4.0

- New memory management functions, supposedly up to five times faster.
- API for pooled memory allocation (similar to exec.library).
- Enhanced semaphore handling – WarpUp now supports shared semaphores.
- Much easier creation of new PPC tasks from both PPC and 68K contexts.
- Safer installation.
- Miscellaneous bug fixes.
- PowerUp emulation.
- WarpStat – a new *MUI*-based PPC task monitor.

DEVELOPER: Haage & Partner
AVAILABLE FROM: ftp://ftp.haage-partner.com/WarpUp/WarpUP_release4.0.lha
SIZE: 1,627K
PRICE: Free

Pros and Cons

- \+ New memory functions.
- \+ Potential performance boost.
- \+ Good documentation.
- \- PowerUp emulation a bit shaky.

OVERALL VERDICT: A fair attempt at a PPC version of exec.library, so how about porting the rest of the OS?

85%

Head-2-Head C Compilers

If you're serious about programming on the Amiga, a good *C* compiler is a must. **Richard Drummond** tests out four that are currently available.

We're kicking off this new series of head-to-head reviews with a look at Amiga *C* compilers. We try out two commercial offerings, *Hisoft C++* and *StormC*, with their easy-to-use IDEs (Integrated Development Environments), and weigh up two of the leading Freeware contenders, *GNU C* and *VBCC*, with their bare-bones command-line interfaces.

Three of the compilers examined here support translation of *C++*, as well as *C* source code. However, we haven't discussed the *C++* features of these three, simply because *C++* isn't widely used on the Amiga yet. *C* is of more interest to most of our readers, so space limitations dictate that this is what we'll concentrate on here.

Similarly, three of the compilers allow compilation for the PPC processor, but PowerPC issues have only been treated lightly. This is because, with the exception of *StormC*, these compilers' PPC features aren't especially easy to use and we lack the space to do justice to the subject.

THE STANDARD

SAS/C for a long time has been the de facto *C* compiler for the Amiga, but unfortunately it's no longer being developed – the last unofficial updates are available from: http://www.warped.com/~stevek/.

The Amiga version of *SAS/C* doesn't stick to the ANSI standard particularly rigidly and it supports a host of very useful but illegal Amiga-specific features. The problem then arises when you try to compile source code which uses these features on a more conservative compiler. Of the compilers reviewed here, the one that copes the best, surprisingly, is *GCC* (when using *libnix*). It handles the vast majority of Amiga code with little modification. The worst is *Hisoft C++* where lots of code will need to be tweaked to stop the compiler quickly spewing out its limit of 50 error messages and then giving up.

ON THIS MONTH'S CD

AFCD41: In_the_Mag-/C_Comparison/

***Amiga Format* have provided a partial distribution of the *Geek Gadgets* environment on this issue's cover CD for you to try out. The latest version of *VBCC* appeared on the cover CD of issue 124.**

Hisoft C++

Price: £49.95 (Lite), £99.95 (Developer)
Developer: Hisoft
Web: http://www.hisoft.co.uk/

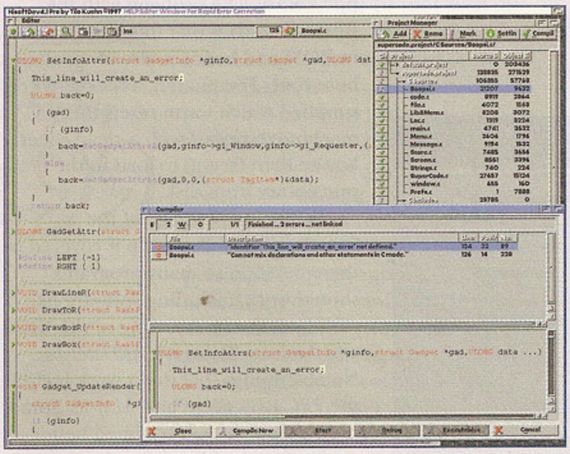
***Hisoft C++* is an ANSI *C* and AT3.0 *C++* 68K-only compiler derived from a translation of the German *MaxonC++*. It's supplied with a slim 16 page manual and a full copy of the dated, but still useful, *Devpac3* assembler. Both the Developer and Lite versions are distributed on three floppy disks, the difference with the Lite edition being that it has no debugger. Installation is via the standard Installer and is quick and simple.**

The big selling point of *Hisoft C++* is the GUI-based IDE which is clear, colourful and a joy to use. It features extensive online help via the AmigaGuide, like *HotHelp*, and drag 'n' drop functionality for quick and easy use.

The IDE has two modes, one which displays the project manger and the debugger. The project manager allows you to assemble your projects effortlessly. It identifies the project components via user-configurable FileTypes, automatically takes care of the dependencies in your project and allows the setting of compilation options, both for the whole project and for individual files. The integrated editor is well-featured, supporting cut and paste, search, undo, macros and syntax-highlighting facilities. The debugger operates at the source level and may be controlled via the editor. It allows the setting of breakpoints and the viewing of registers, variables and stack contents.

***Hisoft C++* fails to deliver on code generation, though. It supports only one optimisation level which it calls 'speed/program size'. These two concepts don't necessary go hand in hand. And while the IDE claims that it supports 68040/60 processors, the code produced would claim otherwise. It does support the production of direct FPU code, but doesn't seem to differentiate between the 68881 and 68040/60 FPUs.**

The other area where *Hisoft C++* lacks is in Amiga-specific features. While the online documentation covers the IDE in great detail, it fails to cover compiler details. By trial and error and trawling through the supplied source code to the link libraries, I found that it supports the auto-opening of libraries and the passing of function parameters in registers. It has no __saveds modifier to reload the contents of the data pointer when in small data mode, but it does have a function called GetBaseReg() to do the job. It doesn't support the storage modifiers __chip, __aligned, __near and __far, though. Inlining of OS functions calls is achieved via the amicall #pragma.



Hisoft's IDE will make light work of building your C projects.

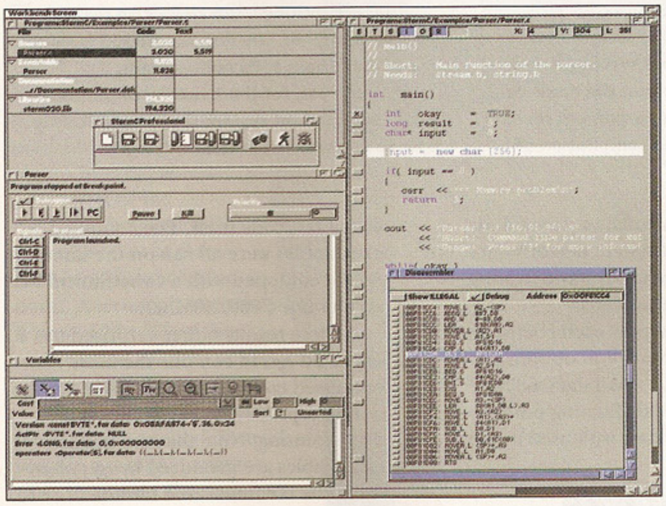
StormC V3.0

Price £179.95 (professional) £109.95 (pro non-commercial)
Developer: Haage & Partner
Supplier: Blittersoft
Web: http://www.blittersoft.com/

StormC is identical to *Hisoft C++* in many ways – in fact, I believe that it's also based on *MaxonC*. Both have an ANSI *C* and AT3.0 *C++* compiler and both have a GUI-based IDE. The GUI looks as if it was created with H&P's *StormWizard*, a world-renowned system for creating the ugliest of interfaces.

It's not that it's particularly difficult to use and, in fact, has mostly the same features, but in comparison to Hisoft's offering it seems positively spartan. *Storm*'s integrated debugger is also similar, but with the useful extra function of being able to trace through a disassembly of your compiled code.

A big plus with *StormC* is that a full version of *GoldEd4*, possibly the most powerful text editor this side of *emacs*, is supplied and can be optionally used instead of the internal editor.



Storm's code generation is a big disappointment for a compiler with such a price tag. It supports six optimisation levels but achieves no better quality than Hisoft's. Its support of Amiga-specific features is a lot better, though. It can manage all that *Hisoft C++* can manage, with the addition that the saveds, __chip, __interrupt and __inline modifiers work as you'd expect.

StormC tends to produce large executables but this is mainly due to its link libraries. A Shareware replacement set is available from http://www.CyberdyneSystems.de/ which will allow the creation of smaller and faster programs. The compiler's documentation in *StormC* is better than HiSoft's and goes into a lot more detail.

The winning feature of *StormC*, however, is undoubtedly its PPC support. It's possible to compile your programs for WarpOS at, literally, the flick of a switch.

Storm's IDE isn't pretty, but it's a lot simpler than mucking about with command line arguments.

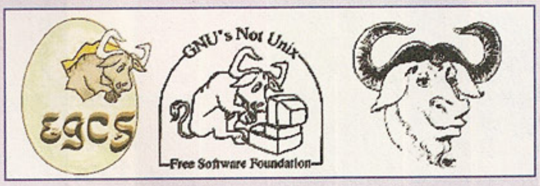
GNU C and egcs

Developer: Various
Price: Free
Web: http://www.gnu.org/, http://egcs.cygnus.com/

GNU C (GCC) is the powerful, go-anywhere C, C++ and *Objective C* compiler from the Free Software Foundation. *egcs*, pronounced "eggs', is an experimental project developed from *GCC*. For the purposes of this article, the differences between *GCC* and *egcs* are so minimal that follows applies to both. *GCC* is a retargetable compiler, capable of producing code for every processor and platform you ever heard of, and many you probably haven't.

The best known port of *GCC* to the Amiga is part of the *Geek Gadgets* development environment by Fred Fish and company. Not only does this include version 1.0.2 of *egcs* targeted for AmigaOS and version 2.7.21 of *GCC* targeted for PowerUP, it also includes a host of other development tools, a debugger and languages such as *Ada* and *Fortran*. The *Geek Gadgets* system is available on CD or may be downloaded from http://www.ninemoons.com/.

The *Geek Gadgets* environment is built around the ixemul.library which provides a UNIX-like API for AmigaOS. Programs compiled with *GCC* use this library by default. This means you may compile a lot of UNIX code with little or no modification, even stuff that makes use of network functions. A small, more conventional shared library, libnix, is also supplied which is more Amiga-like.



GNU, in true UNIX-humour style, is a recursive acronym meaning 'GNU's Not UNIX'.

***GCC* supports practically all Amiga-specific features. The only real difference is that instead of using #pragamas to inline OS functions calls, it uses its own system of macros to insert inline assembly instructions into your code. Another hiccup is that *GCC* compiles to the alien a.out format instead of the Amiga's hunk system, which can be a bit awkward when linking with pre-compiled code.**

***GCC*'s power and flexibility are awesome, as is its code generation. The compiler can adhere rigidly to the ANSI standard or support a host of custom additions. It produces code for any one of the 680x0 series and can tailor floating point code for either external FPUs or the internal FPU of the '040/'060.**

The optimiser can do loop-unrolling, function inlining and constant propagation. It also supports optional stack-checking and extension, plus a special code model to allow PC-relative code on 32-bit CPUs.

The price for all this power, however, is that *GCC* appears quite intimidating for novices. It can be a real pain for the uninitiated to install, configure and use. Everything must be used from the Shell, with a plethora of arcane switches and parameters – there are no friendly GUIs here. Thankfully, the documentation is extremely thorough, although it also appears rather dense.

The PPC version of *GCC* is still a bit of a kludge. An experimental port of *egcs 1.12* is available from: http://user.cs.tu-berlin.de/~paladin/. This version comes in m68k, PowerUp and WarpUp flavours. The WarpUp version produces hybrid WarpUp/ELF executables which must be run with a special loader.

Continued overleaf ➡

VBCC

Price: Free
Developer: Volker Barthelmann, Frank Wille, et al
Web: http://www.franken.de/users/vb/vbcc/

VBCC is a Freeware ANSI C compiler. Like *GCC* it's retargetable, but at the moment it only supports m68k, PPC, i386 and Alpha processors. Although it has been in development for four years, compared to the others it's rather a newcomer.

The quality of code generated by *VBCC* is on a par with *GCC*, although, because it's such a new program, it's probably less reliable. It can do comparable optimisations and it can generate code for any 68K-series CPU and FPU, as well as avoiding the unimplemented instructions on the '040 and '060.

With the latest version, 0.7, support for the Amiga is improving. *VBCC* can handle inlining of OS functions in a manner similar to *GCC*, it can register specification in function parameters, open libraries automatically and can manage __saveds, __chip and __far modifiers (__near is recognised but ignored). A good selection of supporting shared libraries is provided, including ones to permit interfacing of code with the ixemul.library system.

A nice feature of *VBCC* is that the name of a config file can be passed as an argument on its command line. This makes the compilation of programs for either PowerUp or WarpOS straightforward since the necessary configurations are supplied. The linker supports ELF objects and the Extended Hunk Format used by WarpOS.

The only real problem with *VBCC* is its incompleteness. The distribution is still rough around the edges and much is only half-finished. A GUI error-browser and a *MUI* project manager are supplied, but aren't yet terribly useful. An experimental code profiler and a scheduler are included, but there's no Make utility or debugger. The documentation is rather terse and example code non-existent.

Nevertheless, for the majority of purposes *VBCC* is an excellent system that's significantly easier to use and install than GCC.

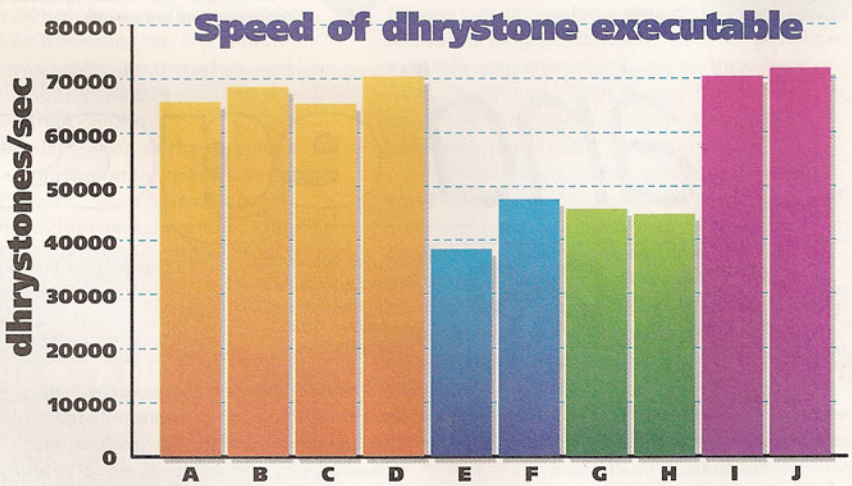
Benchmarks

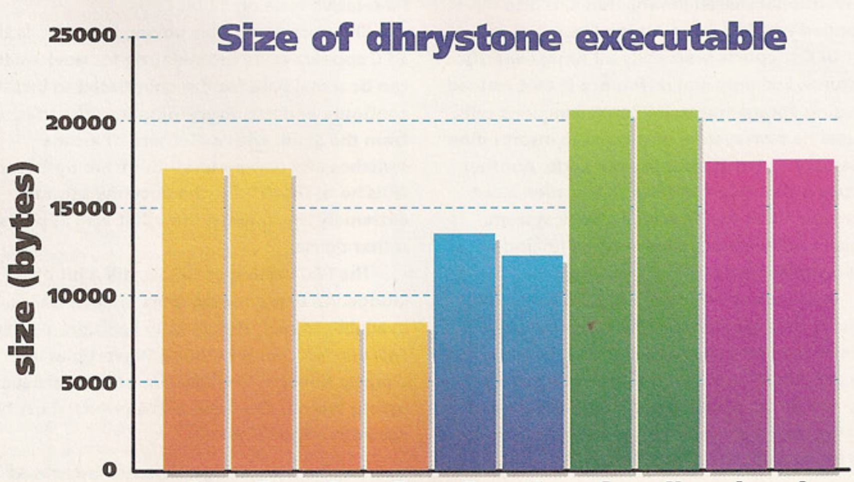
To give a rough idea of the code generation quality of each of the compilers discussed, I compiled a standard dhrystone program on each. The dhrystone benchmark is designed to test integer performance of a CPU. It's not actually a particularly good gauge of system performance, but it's still quite a handy way of testing compiler optimisations.

I tried to supply each compiler with equivalent compilation options for this test: small code, small data, 68060 integer and 68060 floating point code, although the latter isn't used in the actual test code itself. The compiled executables were all run on the same A4000 equipped with a CyberStormPPC accelerator ('060/50Mhz).

These results rather surprised me. I expected *egcs* to compile the most optimised code, but in fact *VBCC* came out on top. *StormC*'s results are very disappointing. Note that the smallest executables are produced by *egcs* when using the ixemul shared library.

As always, however, it's dangerous to read too much into benchmarks.





KEY

	COMPILER	OPTIMISATION LEVEL
A	egcs (no ixemul)	-O2
B	egcs (no ixemul)	-O3
C	egcs	-O2
D	egcs	-O3
E	Hisoft C++	none
F	Hisoft C++	speed/size
G	StormC	5
H	StormC	6
I	VBCC	-O2
J	VBCC	-O3

DECISION TIME

The choice of which compiler to go for is, as with all software, dependent on your own needs and pocket. *Hisoft C++* is an excellent choice for beginners because of its superb GUI and online help system. *StormC* is a good solution for developing WarpOS software, but its high price tag and decidedly average code production may put off potential buyers. *GCC* is easily the best m68k compiler for the power user who's not afraid of UNIX, but its PPC versions are still too inelegant for my liking. The best all-rounder in my book, with it's good support of Amiga features, support for both PowerUp and WarpOS and first-class code generation, is *VBCC*.

MagicXpress ISDN

Neil Bothwick wonders if now's the time to chuck your modem away and get ISDN Internet access instead.

The introduction of BT's Home Highway and their recent halving of the installation cost has resulted in a lot more people considering ISDN. While some people are saying that Home Highway is too little too late, that BT are cutting the price of the technology just before it's superseded, there's no doubt that it's the fastest available option for dialup Internet access. One effect of the increased usage of ISDN is that the cost of the hardware is also coming down. A terminal adaptor is now within £20 of the cost of a 56K modem of similar quality.

ISDN is fully digital so a modem isn't needed. Instead, you use a terminal adaptor (TA) to convert the data from your serial port to the required format for ISDN transmission. Most terminal adaptors connect to the serial port and appear the same as a modem to your software, albeit a very fast one.

The MagicXpress terminal adaptor looks like so many other modems and TAs, finished in the ubiquitous cream with a row of red LEDs behind a smoked plastic front panel. The LEDs cover the same functions as on a modem, with additional ones to show when a 128K connection is in use and that the ISDN link is live (if this one ever goes out, ring BT!). The back panel is covered by the same fold down flap as their modems. This makes the box look neater when not connected, but it can catch on things when it's open. There's a jack socket for the power supply, using the inevitable wart-on-a-plug, a 9-pin serial connector, an RJ-45 connector for the ISDN lead and a couple of DIP switches that should usually be left on the factory settings.

> "It takes around five seconds to initialise, dial, connect and login, compared to some 35 seconds for a V90 modem."



The MagicXpress ISDN looks remarkably like a standard modem.

The supplied serial lead has both 9-pin and 25-pin connectors at the computer end, so you could connect it to the standard Amiga serial port. However, there's no way you'd get the full benefit of ISDN speed without a faster serial port.

While most modems are set up for Internet access as the default, many terminal adaptors are set up for direct transfers. The standard settings on the MagicXpress won't work for an Internet dialup as you need to change the init string. Neither *MiamiInit* nor *Genesis Wizard* have a suitable entry for the MagicXpress TA, but Active Technologies are able to supply the correct settings, either AT&FB4 or AT&FB20, depending on your ISP. There's less standardisation of ISDN commands than there is of modem commands so using the init string for a different TA often won't work.

Once set up the MagicXpress was fuss-free and reliable. It takes around five seconds to initialise, dial, connect and login, compared to some 35 seconds for a V90 modem. In that 30 seconds' difference you could download 200K of data and log off again. Connection speed is 64,000 every time and that speed is maintained for the duration of the call, with none of the retraining that often affects analogue modems.

While operation at 64K is good, 128K connections aren't so perfect. Neither of the main Amiga TCP stacks have direct support for *MultiLinkPPP*, but it's possible to force the MagicXpress to connect at 128K by changing the init string. However, I was totally unable to get it to communicate with my IOBlix serial port at more than 115,200, and you need a 230,400 link to handle the full flow of a 128K connection. This isn't much of a disadvantage for most people; a dual-channel (128K) ISDN call costs twice as much as a 64K call, so the extra speed is offset by the extra cost. However, if you regularly need to transfer large amounts of data urgently, this may not be the TA for you.

NO ANALOGUE SUPPORT

Home Highway has two analogue phone sockets, as well as the digital ones, so newer terminal adaptors like the MagicXpress often come with no analogue ports. This means you can't use them with the standard ISDN2e service from BT.

If you currently use something like *STFax* for fax or voice through a modem, you'll still need your modem for this. There's a fax standard for ISDN but there's currently no Amiga support for it.

SUPPLIER: Active Technologies 01325 460116, http://www.active-net.co.uk
PRICE: £89.95
REQUIREMENTS: Fast serial port

Pros and Cons

- \+ Very reliable, fuss-free 64K access.
- \+ Easily replaces existing modem setup.
- \+ The MagicXpress has a nice, compact design.
- − 128K performance restricted by serial speed.

OVERALL VERDICT:
A good choice for those wanting 64K ISDN at a low price.

86%

PCx Emulator

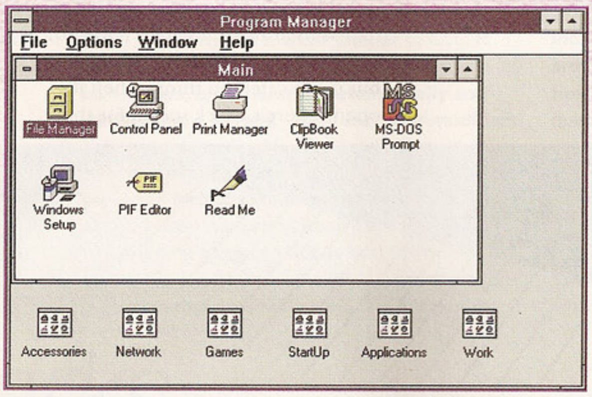
Reader Reviews

Nick Lamburn looks at how to get a PC on your Amiga, as well as providing some useful hints and tips.

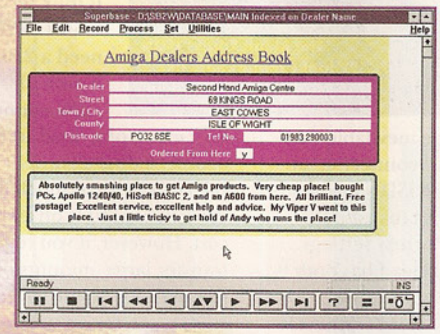
PC emulation has been considered to be too slow to be useful for a long time. However, many Amigas now have fast processors, like 68040s. Even though the '030/50MHz is reasonably fast on the Amiga side of things, a fast 68040 or better is really needed for this kind of emulation.

PCx is the PC emulator from Microcode Solutions, and despite the last update being in 1997, *PCx* has stood the test of time. When you start *PCx*, the setup window operates all the functions that you would normally configure in a real PC's BIOS, and more. Things such as disk drives, graphics drivers, hard drive, mouse and sound setup are a few of the attributes that you can configure. With *PCx* you can allocate a maximum of 16Mb of RAM for the 'PC', which is a reasonable limit. With a 32Mb Amiga you can have a 16Mb PC and a 10Mb Amiga still operational, with a full Amiga Workbench loaded in the background. As for hard disk storage, you can choose to use either hardfiles (a file that imitates the PC's hard disk), which are compatible with those from *PC-Task*, or full hard disk partitions which are much faster.

> Things such as disk drives, graphics drivers, mouse and sound setup are a few of the attributes you can configure.



Windows 3.11 is about the best you can expect.



***Superbase 4* exists in Amiga and Windows versions.**

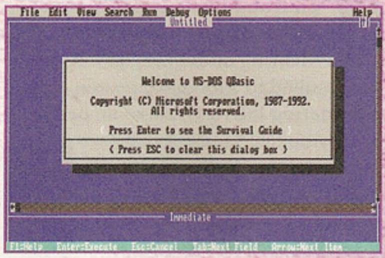
In *PCx* you can optimise speed by using the Transcription and Turbo modes. Transcription converts Intel 80x86 code into Motorola 68K code. It fills up the cache with translated code and then executes it. Also, if code is repeated in a program and the code is still in the cache, it will re-use it. This practice can give quite substantial speed increases. *PCx*'s Turbo slider, although poorly documented, is quite useful. The Turbo slider will give different parts of the 'PC's system' different priorities. For example, if you set the slider to level number 4, you can get between a 25%-30% speed increase in Windows.

PCx is an excellent emulator and supports many great features which I view as essential in PC emulation. With *PCx* you do get *SoundBlaster* emulation, which means Windows will start with the famous TaDa! Mouse emulation is comprehensive and even the PS/2 emulation of the mouse on a 68040/40MHz is incredibly usable.

However, *PCx* isn't without its problems. For example, the provided CD-ROM driver isn't complete as it rejects some CDs as being invalid. To be quite honest, this is the only weak point of *PCx* in my opinion. Although the documentation is less than desirable, it offers a lot for its retail price.

PCx tries to provide you with as much speed as it possibly can, and although *PC-Task*'s Transcription (Dynamic mode) is slightly better than *PCx*'s Transcription, as *PCx* seems to be much more erratic in places, *PCx* seems to have more of an edge on speed.

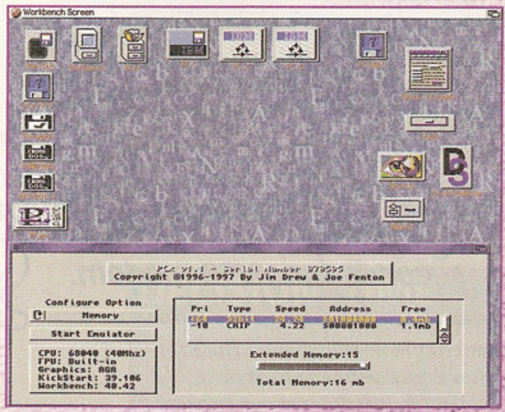
It's such a shame the CD-ROM driver is incomplete, and likewise the manual. The fact that *PCx* has no MMU emulation on what is an otherwise complete 80586DX/SX (Pentium) emulation may seem minor, but the latter point means no 386 enhanced mode Windows, and therefore no Windows For Workgroups.



You thought you'd escaped *MS-Basic* when you got rid of that 1.2 Amiga, didn't you?

CONCLUSION

So long as you have at least a 40MHz 68040, *PCx* emulation is an enjoyable and worthwhile compatibility solution. If there's anything that makes your Amiga look extremely powerful, it would be a PC user seeing Amiga Workbench and Microsoft Windows on the same computer. Now at last I can use a decent version of *Superbase*...



How nice Workbench looks in comparison to Windows 3.11...

BEN'S VERDICT

There's no doubt that PC emulation on your Amiga can be a bit heart-breaking considering the difference in speed and so on, but by the same count it can also be incredibly useful, as Nick shows – it depends on what you want.

Emulation has always been one of the Amiga's fortes ever since the early days of the KCS Powerboard and *AMax*. This means that Amiga owners are probably the wisest about systems other than their own.

AVAILABILITY: Blittersoft and other main dealers
PRICE: £24.95

OVERALL VERDICT:
***PCx* really is a testament to the Amiga's power.**

88%

PCx Emulator Tips v1.1

CHAPTER I.

GETTING WINDOWS FOR WORKGROUPS RUNNING ON PCx 1.1

First you'll need to understand a little about the way Windows functions before you can understand why Windows For Workgroups (WFW) won't run out of the box on *PCx*.

Windows uses two modes, Standard and Enhanced. The latter is used on 80386, 80468 and 80586 (Pentium) computers. But because Windows 3.1 could run on an AT (80286), it would run it in Standard mode. Using the WIN.COM command, Windows would see what CPU you had in your PC and what memory (RAM) was available and then decide, depending on the results, which mode to run in.

As you know, *PCx* emulates a Pentium (80586) CPU and all Pentiums have an MMU, unlike 680ECx0 Motorola CPUs. The MMU is needed in enhanced mode to manage virtual memory and other subtle things, to less subtle things like DOS in Windows windows. Because *PCx* doesn't emulate so-called MMU paging, the Enhanced mode won't work on it, even if your 68K CPU has one, such as your full 68040. When Windows checks for enhanced mode, it doesn't test for the presence of an MMU, only for a CPU which is

> "*PCx* doesn't emulate so-called MMU paging so the Enhanced mode won't work on it, even if your 68K CPU has one."

known to have one, such as the 80486DX2 or 80386SX. Consequently, when you start WFW after installation using the conventional WIN command, Windows starts to load and then freezes up solid, requiring a hard *PCx* reset.

It would therefore make sense to force Windows into standard mode. On Windows 3.1, the WIN /3 command is for using Enhanced mode (if possible) and WIN /S for standard mode, whatever the computer, even if it's a Pentium, which is what *PCX* almost emulates. (Missing MMU paging = Not complete 80586 CPU). However, WFW will only run in Enhanced mode. Even if you try it with the WIN /S trick it says "Windows For Workgroups does not run in Real or Standard modes" or such like.

And so you're stuck with a problem. So was I. Even though I was told it wouldn't work I wanted it to do so, and I got it to do what I wanted, which was to load Windows.

The first thing I did, for some obscure reason, was to have a look at the

COMMON REFERENCES

80286	286 or AT
80386/80386DX	386 with 387
80386SX	86 without a 387
80486/80486DX2/80486DX4	486 with 487
80486SX	486 without a 487
80586	Pentium with 587
WFW	Windows For Workgroups
DOS	MS-DOS

The information that's provided here is NOT guaranteed to work. However, there is much more of a chance of it working than not. If you give reference in your work to these details provided in this file then please give credit to the source that it came from. Copyright © 1998-1999 Nick Lamburn – Omega Research, UK.

PART 1

WIN.COM file in *Edit*, the MS-DOS editor. I loaded it in and to my amazement there were the error messages in their full glory. Sifting through all the crap (to put this bluntly) revealed the following lines:

$Cannot find DOSX.EXE needed to run in standard mode; check to ensure the path is correct or reinstall Windows.

DOSX.EXE, eh? Firstly, it wasn't in the C:\WINDOWS directory. Well, that was that, but then I remembered the SYSTEM sub-directory. DOSX.EXE is located in C:\WINDOWS\SYSTEM directory! Hurrah!

Firstly, as this was a executable, I tried to simply enter in: CD C:\WINDOWS\SYSTEM and then: DOSX. Yes, it worked until it exited with can't find DISPLAY.SYS. This file is in the C:\WINDOWS directory. Then I entered: CD .. This goes back to parent directory like / does in AmigaDOS. Then I typed: C:\WINDOWS\SYSTEM\DOSX.EXE.

UP AND RUNNING

This worked. Windows For Workgroups was working on the emulator that said it never worked on. Was I the first to get it to do so? One thing is that you don't get the Windows startup logo and you can't run MS-DOS programs in Windows. This is a shame, but MS-DOS programs which are run with Windows in the background are pretty slow anyway. Just exit Windows and then run these antiquated programs.

Therefore, in order to run WFW on *PCx*, when DOS has loaded and you have WFW installed (WFW will install quite okay, it's just running it), at the prompt type in: CD C:\WINDOWS
The above line will move you to the Windows directory. Make sure that you do use CD because MS-DOS can't handle implied CD like AmigaDOS can. Implied CD is where CD is missed out. For example, CD HD0:SYSTEM is the same as HD0:SYSTEM.

Then the following command needs to be entered at the prompt which should be C:\WINDOWS>: SYSTEM\DOSX

And that's it. WFW will now load and everything is operational and complete. You won't be able to run MS-DOS programs while Windows is running and the Windows Startup logo won't appear. All in all, these aren't crucial losses because MS-DOS programs are better run when Windows isn't even about, and this applies to real Windows 3.x PCs too.

AUTOMATION

If you'd like to automate this you can make an MS-DOS Batch file, which is the poor man's equivalent to an AmigaDOS script. To create a batch file that will do all of the above for you, you'll need to run the MS-DOS editor like so: C:\DOS\EDIT

This will open up the MS-DOS editor, so now type in the following lines and press enter where a "¶" (excluding quotation marks) appears: @ECHO OFF ¶ CD C:\WINDOWS ¶ SYSTEM\DOSX.EXE ¶
Now, from the file menu, save the file as WINDOWS.BAT or anything with a .BAT extension. It's recommended that this file is placed in the root directory or the Windows or DOS directories. If you placed the file WINDOWS.BAT in C: then you would run it like this: WINDOWS
The process is all automated for you.

I'm currently trying to figure out why DOS programs won't run with Windows on *PCx*. So far I know that a Windows 3.1 file called VGACOLOR.2GR from Windows 3.1 is needed, and the line 286GRABBER=VGACOLOR.2GR must be entered into C:\WINDOWS\SYSTEM.INI and WINOLDAP.MOD and WINOLDAP.GRB in WINDOWS\SYSTEM.

Please note that the above text assumes that Windows is installed on the C: drive. If yours is installed on the D: drive instead (like me), exchange any occurrences of C:\ and C: with D:\ and D: respectively.

NEXT MONTH

The conclusion to Nick's excellent *PCx* tips, covering topics such as making sure that *PCx* is operating at the very top speed your Amiga is capable of and how to deal with your Amiga's video-friendly resolutions when testing PC screenmodes.

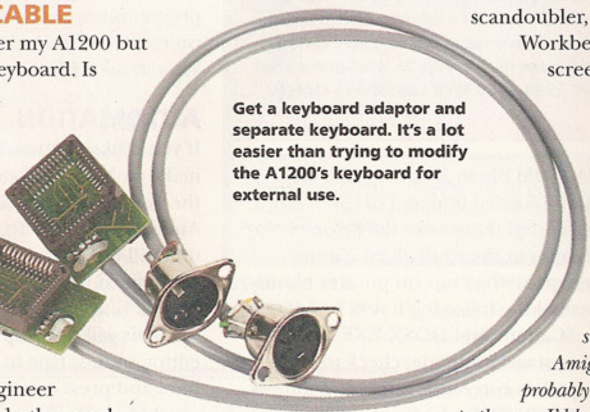


Workbench

Technical queries solved by John Kennedy. Email: amformat@futurenet.co.uk, putting Workbench in the subject line, or write to: **Workbench • Amiga Format • 30 Monmouth Street • Bath • Somerset • BA1 2BW.**

EXTENSION CABLE

I would like to tower my A1200 but keep my original keyboard. Is there any technical reason why I shouldn't replace the ribbon connector which goes from the motherboard to the keypad with a soldered-in long multi-way cable? I'm a TV engineer so the soldering and other work shouldn't be a problem.



Get a keyboard adaptor and separate keyboard. It's a lot easier than trying to modify the A1200's keyboard for external use.

Also, due to chip RAM restrictions, *Personal Paint* and *Deluxe Paint* are pretty useless when compared to *Corel Draw*'s capability. Is there a way of assigning these paint programs to use main RAM for graphics? *Ibrowse* does this for displaying images so it must be possible. Also, is there a way of using my PC's memory for the Amiga using *Mount PC* or a similar configuration?

Also, I use a multisync monitor and scandoubler, is there a way of making Workbench fill the entire screen without any border?

Will Halligan
via email

As an electronic engineer you're well acquainted with the problems caused by crosstalk, and how longer wires are susceptible to noise and signal degradation. The Amiga keyboard cable is probably not the most robust of pathways: I'd be very careful about trying to extend it. Ribbon cable isn't designed for long distances and I would recommend you use a multicore shielded cable instead. I used this on an A500 and it worked fine. Of course, then you need to worry about housing the Amiga keyboard...

For an image to appear on the monitor it needs to be stored in chip RAM, and that's all there is to it. Programs may temporarily cache graphics data in main memory, but at some point the data will need to be copied into chip RAM. A graphics program is usually displaying images in a lot of colours and at a high resolution, and unfortunately this uses up chip RAM: there isn't a great deal you can do about it. The only exception is when using a graphics card as this can help to free up memory as the graphics don't necessarily need to be accessed by the custom chips – it's the graphics card which looks after displaying everything, not the Amiga's hardware.

Picture width is a common problem. It's due to timing restrictions and limitations on the monitor. Many monitors won't allow the image to be spread out fully in the horizontal direction. You can try fine-tuning the video driver with a rather hacky utility but unfortunately the odds are against you getting rid of the borders totally.

VIDEO KILLED THE RADIO STAR

I'm going to get an SVGA monitor for my A1200 but I've seen reviews of scandoublers which all say something different about the process of scandoubling. I want to get one, probably from Eyetech or Power, but I don't know which one and I have several questions about them.

WHILE YOU WERE SLEEPING

1 Is it possible to transfer data from one FTP site to another (for example, Aminet to my Freeserve webspace) by starting the transfer and letting it get on with it while I'm offline?

2 Do you know of a utility that will produce an index of an FTP site (directories, files, etc) in the form of a text file or HTTP file?

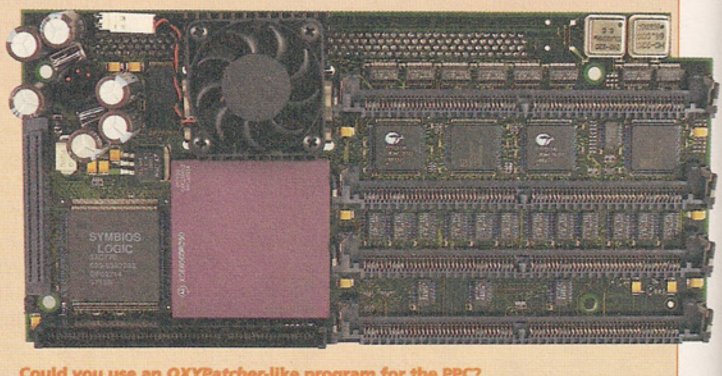
3 Finally, this may be really dumb but I'm not a programmer so I'm not sure if it'd work, but I had an idea. A program like *OXYPatcher* improves performance on '060-based machines by intercepting the FPU calls, doesn't it? Can't something similar be done with PPC cards; redirect FPU instructions to the PPC to give a performance boost? If it was possible, it could encourage more people to buy the things as their existing software would be improved and it would then encourage software developers to write more proper PPC software. I'm sure other readers would let me know if it was possible – if it is, write it!

Igor
via email

1 Good idea, but the answer isn't easy. I suspect the only way to do that would be to get what's known as a UNIX Shell account. This is effectively your own UNIX computer terminal somewhere on the Internet which you can access using Telnet. It works like a Shell or CLI, except, of course, that the computer running the commands you type is in America or essentially anywhere other than on your desk. Depending on the account, you might be able to leave processes running while you log out and, theoretically, these processes could be copying files over FTP.

2 This one is easy: just use a Shell-based FTP tool and redirect the output to the printer device or RAM disk for editing and printing from a text editor program later.

3 The utility intercepts instructions (not just FPU) which aren't present on the silicon of the 68060 processor and performs them faster than standard libraries. Presumably this is similar to how the currently available PPC cards work – the PPC gets to do the brute force processing work in parallel with the 68040/60. Using it as an FPU would be possible, but it's an expensive way to use a CPU. It would be better if the entire OS could run on the PPC chip. As this probably isn't going to happen, programs which are smart enough to know a PPC is there and get it to do the processing when possible are the best solution.



Could you use an *OXYPatcher*-like program for the PPC?

WHOOPS!

I own an A1200 with a Cobra '030 33MHz accelerator card, 16MB RAM, OS 3.1, ROM 3.0 and a Quantum Bigfoot 2.1Gb hard drive. The problem started when I defragged the hard drive using *Quarterback Tools 2.5*. After the program had finished I quit *QBtools* and then noticed checksum errors all through the hard drive – I couldn't even execute a CLI command or load a Shell.

I rebooted, the disk validator started and when it finished I ran *QBtools 2.5 Analyse and Repair* to make sure there were no errors left. The program found one, the bitmap, so it changed it. Now the computer only sees about 15% of the data on the hard drive. It still says the correct amount of space that's used and free. In the Shell I can go into a directory that's "not there" with no problems. When I do DIR it says the directory is empty when it isn't.

If I type in the name of a program in that directory it will run it. The file system I'm using is the latest beta version of *FFS* from Amiga Inc. Can someone please help me because I haven't had a chance to back all my data up so I really don't want to reformat.

Lyndon
via email

That sounds terrible but, frankly, anyone who trusts important data to a beta system and doesn't make backups is asking for trouble. Trouble with a capital T. You'll just have to copy as much data off the disk as you can and then reformat it. If the new version of FFS you're using makes changes to the way data is stored, it obviously stands to reason that older disk manipulation tools won't be able to handle the new format of the drive.

1 Does a scandoubler increase all video frequencies to 31KHz or just ones in the range of 15-16KHz?

2 I always thought that interlace didn't cause a flicker on monitors as they're much better quality than TVs, so what exactly is the point of getting a flicker fixer?

3 Assuming that the scandoubler only works over a certain frequency range, and that interlace makes monitors flicker, wouldn't the flicker fixer cut out too, leaving the higher frequencies flickering?

4 What does the VGAOnly file in the monitor's directory do, as just running it doesn't seem to change the frequencies which are in the screenmode preferences?

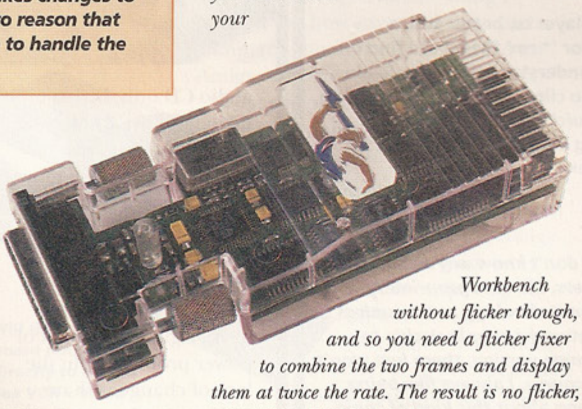
5 Are there any monitor drivers that are at 31KHz and have the same sort of sizes that PCs have (like 800x600)? If so, where can I get them?

Simon Hall
via email

I suspect you might be getting confused with a scandoubler and a flicker fixer, but let's have a walk through the questions.

1 A scandoubler takes frequencies in the lower frequency range and doubles them. Its job is to take old-fashioned, TV-oriented output from an Amiga and update it to work with an SVGA-style computer monitor.

2 Interlace doesn't always cause flicker. Look at any program on your TV set for example – see any flicker? Connect up an Amiga, use 320x512 PAL mode and it's flicker city. Why? Because what the Amiga is displaying is too contrast-y, with lots of horizontal lines one pixel across and therefore appearing on every other frame. The result is flicker. However, if you display a nice digitised photograph in interlace mode you won't see any flicker. This is because there isn't a lot of information appearing on just one scan line or another as it's spread out a bit. This doesn't help when you want to see your Workbench without flicker though, and so you need a flicker fixer to combine the two frames and display them at twice the rate. The result is no flicker, no matter what the display.



Flicker fixer or scandoubler? The choice is yours.

3 Um. I think you're going to have to draw this out for me on a piece of paper. Would it help if I told you that it's possible to create an interlaced display even if you have a scandoubler? And then you need both for a rock-steady display on an SVGA monitor?

4 If you drag this monitor setting into the directory of currently used monitor drivers it apparently tweaks the output ever so slightly in an attempt to make the current video output more SVGA-compatible. To be honest I never noticed much different myself, and instead used rather dubious, hacker-type utilities. Then I got a graphics card and lived happily ever after.

5 Multiscan Productivity mode is one of the best, in my experience. I used this until the Picasso card came along and I discovered true nirvana.

QUICK QUESTION:

Please tell me where can I get drivers for printers for my Amiga 1200. I'm particularly interested in the Epson and Canon printers.

Branislav Rebic
via email

One word for you: TurboPrint 7. Well, okay, that's one word and one number, but it's all you need to know. That and the fact that you can buy it from Eyetech.



Top notch output from *TurboPrint 7*, with drivers.

DONGLE PROBLEM

We have a 1988 edition of the spreadsheet *Superplan* for the Amiga, by Precision Software. Our program uses a dongle, though we've heard of a later version which doesn't. Our dongle was recently misplaced, perhaps by a curious 3-year-old or by my overly efficient mother. Is there an alternative to the dongle in the *Superplan* program? If you don't know, do you know anyone to contact about this problem?

Purchasing a used copy of this old program, or even just the dongle, isn't out of the question, but I've been unable to find a copy anywhere and I received zero replies to my query on comp.sys.amiga.applications.

Carol Bogue
via email

Here's hoping that someone will write in, otherwise you're pretty much stuck, I'm afraid!

Feedback

In response to F. J. Hudson's hard drive problem (AF123), there's one course of events which isn't listed as a solution. Although the Kickstart version isn't given, it wouldn't surprise a lot of us if Mr. Hudson still had old 3.0 ROMs. This revision doesn't quite give enough time to allow some large hard drives to reach full spin speed before trying to boot, hence you get the "Load Workbench disk" screen from a cold boot. Warm booting generally works as the the drive has had time to reach full speed.

The solution is to purchase the later 3.1 ROMs which give more time for drives to reach operating speed before trying to boot.

With regard to C. R. Fulford's hard drive problems, this isn't any extra advice, just a reason for A1200s and 4000s using scsi.device rather than ide.device. Amigas have always been (and still are) superior to PCs in their hardware architecture. While PCs were using IDE interfaces to access hard drives, Amigas would use SCSI devices. However, because of Commodore's inability to market a decent product, they became short of money and later Amigas used cheaper hardware components. The IDE interface is a lot cheaper than SCSI. To keep some sort of backward compatibility with the new, cheaper hardware, the scsi.device was used. Hope this is of help!

John (Jake) Kemp
via email

It's not entirely fair to blame Commodore for cost cutting in the use of IDE rather than SCSI, and that certainly doesn't explain why they didn't change the name from scsi.device to ide.device and avoid a lot of confusion. Also, you need to remember that 2.5" SCSI hard drives don't exist, and so using IDE drives meant the A600 and A1200 could have internal hard drives, the cheapest Amigas to ever offer this facility. Also, IDE drives are still cheaper than SCSI drives. I would guess their logic was that IDE would suit most people, and anyone wanting the benefits of SCSI (and not many people can list the benefits, never mind make use of them) could buy a SCSI card.

Continued overleaf ➡

SOUND OF FAILURE

1 The *IDEFix* software has a function called *PlayCD*. It recognises the fact that an audio CD has been inserted but I can't receive any sound.

2 The other problem is that I keep getting software failures and I can't understand why. I recently installed *Tools Daemon, Manager, Tiny Meter* and *Swazinfo* and they ran fine. However, I disabled them in my Workbench Disabled drawer in WBStartup2+ and the problem still exists. This is my main concern as my Amiga is used for business purposes. Any help you may be able to provide would be appreciated.

M. Sweet
Exmouth

1 All the PlayCD *option does is tell the CD-ROM drive to start spinning the disc and decoding the audio. What happens to that audio is now another matter. It turns out that it appears in two places: at the headphone socket on the front panel (almost all CD-ROM drives have this socket, so plug in a pair of headphones and listen) and at a rather unfriendly connector at the rear of the drive. On PC systems this connector is hooked up to the soundcard so that the CD-ROM audio appears from the speakers. Most Amigas don't have this facility so there is nowhere to connect this extra audio to unless you buy an external mixing box.*

2 Try making sure absolutely nothing extra is running. Don't just look in the WBStartup drawer but have a good look at the startup-sequence and user-startup directories too. If you're happy that nothing other than the native Workbench stuff is running and you still get crashes, it's time to consider the hardware. Try removing any extra memory or a CPU card and bring your Amiga back down to the bare minimum. It's possible that a dodgy piece of RAM or an over-stretched PSU is at the root of the problem.

POKE A CHIP TODAY

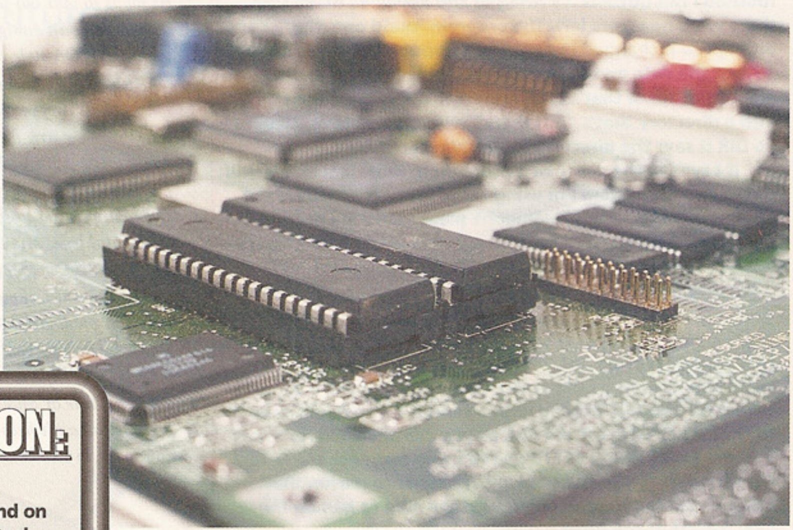
My system worked just fine with absolutely no problems. However, this was in a room with no direct sunlight. Since then I got an A4000 and gave the A1200 to my brother. He put it in front of a window with full sunlight all summer. Gradually the CD-ROM became flaky, sometimes working fine, sometimes not at all, sometimes for audio CD only. I tried taking out the RAM, then the 1260, but no joy. Finally I told him to move the computer to a shadier spot. No joy though – now the A1200 only boots if the PCMCIA connector isn't in place, so no CD.

I originally thought of power problems, but the lack of change with no 1260 means I can only think that the heat of the sun, directly on the machine, has raised the chip controlling the slot out of its socket. Now I'm quite willing to open the 1200 to push it home, but which chip is it? I'd prefer not to be prodding chips at random. Also, can you suggest an alternative solution?

Julian Cameron
via email

Just earth yourself properly and give every chip you can find a good poke. I don't think you'll have much luck though, as most of the chips are surface mounted so there are no sockets to creep out of. Try getting one of the cold air sprays which electronic engineers use to frighten each other by sneaking up and spraying one another on the back of the neck. Give each chip in turn a blast and this will allow you to work out if any chips have become thermally unstable.

It could also be a bad connection in the PCMCIA connector so clean both sets of contacts with alcohol or contact cleaner.



The A1200 only has a few non-surface mount chips, like Kickstart, on the motherboard.

QUICK QUESTION:

Is there a player or, better still, a converter for '*.rm' files that I find on the net? I understand these are Real Media video clips with sound. I can play AVIs and *QuickTime* at a reasonable speed using *MooVid* on my 68060/50-based tower.

Andy Thomson
via email

I'm afraid I don't know any Amiga Real Media players. RM uses proprietary compression technology and so unless the Real Networks people decide to write an Amiga version, there just won't be one. Of course, I always like being proved wrong about this kind of thing, so if someone out there knows better...

BOOT PLEASE

I want to be able to boot from my new 24x CD-ROM drive. I've installed *IDEFix 97* and I can access CD-ROMs when I boot from my hard drive but when I go into the early startup control and try to make my CD drive the boot device, I can't because it isn't available to boot from. How do I make it so that I can boot straight from your cool CDs? Hope you know what I'm on about.

Richard Smith
Essex

I don't think you can boot from the CD-ROM drive directly (and the AFCD doesn't boot anyway). If the drivers for the CD-ROM need to be loaded from hard disk, you'll need to boot from the hard disk first in order for the system to load the drivers and then know how to use the CD-ROM drive.

FAST ENOUGH FOR YA?

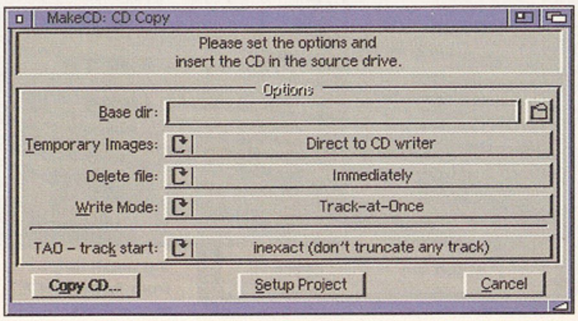
1 Just how reliable is writing CDs over IDE and will a 68030/40 with 32Mb, 4.3Gb HD and 36x CD-ROM be enough? I plan to get a re-writer from Eyetech with *MakeCD*. Also, I have a revision ID4 motherboard. Will this cause problems?

2 Do you have any idea why my computer won't boot when I remove my accelerator/memory expansion? I just get a magenta/purple coloured screen.

Dillon Eyre
via email

1 I don't think you'll have any problems writing CDs with that specification. Most of the early problems reported with drives producing useless shiny





A CD-ROM writer, a reasonably powerful machine and *MakeCD* should be all you need to burn gold CDs.

beermats were due to people using CPU-performance-sucking Windows software on PCs, or poorly terminated SCSI systems. Your hard drive will be nippy (as it's large and therefore new-ish) and you have enough memory to make a huge buffer if required. Just don't try to play Quake *while the system is busy.*

2 *That's a good one. Could you have installed some particular patch which requires a 68030 or better processor? Or is it something more obvious (although something I've missed on my own system from time to time) such as the hard drive being connected to an interface which is actually part of the accelerator card?*

VCR = VIDEO CARD REQUEST

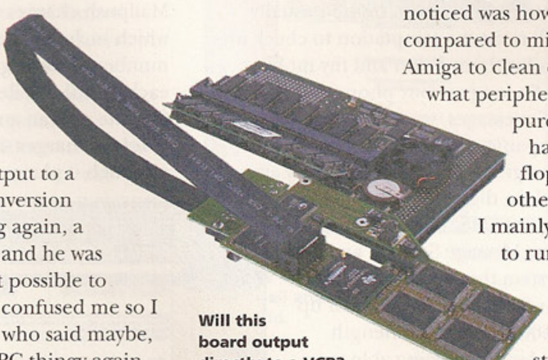
I have a dilemma that I need help with. I've been after a graphics card. At first I decided to go for the Picasso as an extra module allows you to connect it to a VCR. Eyetech told me that Village Tronic have stopped production of Picasso though. I've been advised by them to get the BVision card, and after reading up on it I realise it's the best one. However, I need it to output to a VCR for my animation work. I've been told firstly by Eyetech than I can output to a VCR through a PC conversion thingy. After enquiring again, a different guy told me, and he was adamant, that it wasn't possible to output to a VCR. This confused me so I phoned White Knight who said maybe, perhaps, through the PC thingy again. Who is right?

Dave Preece
via email

The simple answer is that Mr. Adamant is wrong. Amiga graphics cards are designed, mostly by way of using standard PC video card components at their heart, to produce an SVGA video signal. To the monitor with which they're used, the video signal is indistinguishable from an ordinary PC.

As has been pointed out to you, it's perfectly possible to buy a adaptor which takes PC video and outputs VCR-friendly signals – sometimes S-VHS too, which gives even better results.

However a Picasso IV card can have a Pablo attached to it that will allow it to output video resolution images and animations with no trouble. You can even get a card (the Paloma) that allows you to watch TV on your Workbench if you fancy going the other way too!



Will this board output directly to a VCR? See VCR = Video Card Request.

PARALLEL MODE

I have a parallel port Zip drive which I use on my PC and I wondered if you knew where I could get the drivers to use it with my Amiga 1200 (my Amiga is a basic model, i.e. with no hard drive). Also, would they work with a SCSI Zip 250Mb drive? Finally, I know this isn't really a question for Workbench, but do you have a weekly/monthly news page telling us of things that are happening that is sent by email, like the one *.Net* magazine has?

Jonn Holroyd
via email

The parallel port version of the Zip drive can't be used on a standard Amiga. The Amiga's built-in parallel port was designed for use with printers and not much else. Okay, so it's been used for video digitisers and sound samplers, but it still lacks the flexibility needed to use it with a Zip drive – that route is purely for PC folk or people with an add-on parallel port. The SCSI version, as the name tends to imply, requires a SCSI interface, so again it won't work with the parallel port – you'll need a SCSI interface.

You can subscribe to the Amiga Format Bulletin (afb) which will bring you all the latest news and views. For more details, take a look at page 93 of this issue.

AMIGA NEWBIE

I've just bought an A1200 second hand, with a 1084S colour monitor. I didn't receive much software with the machine, just Workbench 3.0 (one disk) and a few others (games, *Deluxe Paint*, *X-Copy*, etc). I haven't used Amigas much before. I bought *Amiga Format* yesterday and was glad to see it's still going strong. The first thing I noticed was how advanced they can be compared to mine. I disassembled my Amiga to clean everything and check what peripherals I have. It's as new, purchased in 1993, with no hard-disk, 2Mb RAM, 3.5" floppy, MIDI interface – in other words, it's pretty basic. I mainly want to use the Amiga to run a MIDI-based sequencer package in my already well established music home studio (I've been reluctant to use computers for years now, especially PCs). I'm using a copied version of *Music-X* from a friend's A500 (WB 1.3) which works okay except I have to select *NOFASTMEM* before use, otherwise it states that there's "no chip RAM memory".

1 Why is this? Should I get a better sequencer package? I tried to load the free coverdisc from May's *AF* mag. After loading WB 3.0, I load the disks to get the icon, but when I click on these I get the message: "Unable to load Tool IconX".

2 Why is this, what is *IconX* and what software do I need to run new programs?. Looking through the magazine I notice a utility program mentioned called Kickstart. I don't have any such software and I'm reluctant to copy programs from my friend's A500 as they're even more out of date than mine (i.e. WB 1.3).

3 What is Kickstart and which version do I need? I'm fairly against the Bill Gates/Microsoft enterprise and am happy to ignore the PC-dominated world. It appears from adverts in your magazine that A1200s can be beefed up to achieve similar results from software/hardware combinations, especially as I don't require much from my computer; maybe a hard disk, CD-ROM and Internet set up would be nice, although I have to stick to a budget.

4 Please recommend the next thing to do. Is upgrading the motherboard to a 68030 (as per your article in May's *AF*) of use to me? Do I need to add chip RAM? Can I get a WB 3.0 version of *Music-X*? Basically, my machine works now and it plays games (old ones, anyway). *Music-X* works, but not after loading WB 3.0 as there's a font problem. Please help, but remember I only paid £50 for the computer and can't spend too much more, so I need to know what's best to do first.

Ben Green
via email

1 *Music-X has detected you're using a pirate copy and is deliberately misbehaving. Well, no, it's not doing that. You have to remember that* Music-X *was written when the A500 was king and the newfangled A1200 can confuse it. Best thing to do is find someone selling their copy of* Music-X *version 2 as this is more up to date.*

2 IconX *is a utility which is usually included as part of the Workbench system. It allows an AmigaDOS script to have an icon associated with it. If you're using a magazine coverdisk, make sure you boot from the right disk – you may have to boot from the magazine coverdisk rather than booting your own Workbench, and then use the coverdisk, or vice versa.*

3 *Kickstart is the ROM at the heart of your Amiga. It contains the core of the Workbench and, most obviously, provides the purple-coloured boot screen you'll see when you power on without a disk in the drive. You have version 3-and-a-bit, which is fine for your needs.*

4 *By all means beef up your A1200. Fitting a new trapdoor card (not a motherboard, this isn't a PC) which contains a 68030 or better processor and some memory would be a great idea. By the way, you can't add more chip RAM as 2Mb is the limit. A hard drive would also be money well spent. If your budget is severely limited, keep an eye out for second hand bargains.*

IF YOU HAVE A QUERY

We welcome your queries, but make sure you submit them correctly:

- **Send email to amformat@futurenet.co.uk with the subject "Workbench".**
- **Send letters to the usual *AF* address (it's on page 94 if you need it), and make sure you put "Workbench" on the envelope.**
- **Include details about your machine, such as what processor and how much RAM it has.**
- **Do your best to describe your problem succinctly.**
- **Make sure it wouldn't be easier to contact the dealer you bought the item from and ask them.**
- **Be concise!**



Amiga.net

AFCD41:-In_the_Mag-/Amiga.net

ON THIS MONTH'S CD

Dave Cusick looks at different ways in which your Amiga can complement your mobile phone.

CONTACT POINT

As always, you can contact me with your comments, questions and suggestions at dave@dcus.demon.co.uk. And for those of you who still haven't signed up with a free ISP, you can now find Andy Sillwood's guide to getting online with FreeServe using Miami or Genesis at http://www.dcus.demon.co.uk/amiga/freeisps.html

When I bought my first mobile telephone about two years ago, they still weren't all that common outside the fanciest parts of major cities around Britain. Nowadays it seems they're everywhere.

> "There are a few Amiga programs online which are specifically designed to allow you to send SMS messages…"

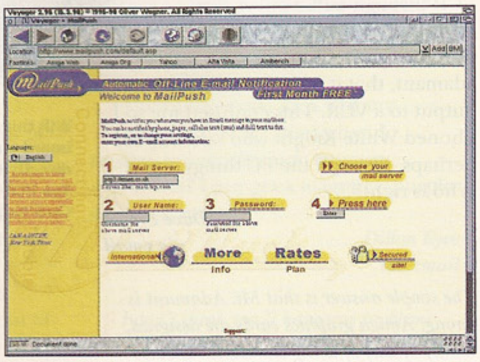
Actually, that perception isn't a million miles from reality. The latest estimates suggest that as many as one in four people in this country now own a mobile phone. Subscriber numbers are growing rapidly too; around 2.5 million new subscribers joined the four UK networks in the three months leading up to last Christmas.

Phone technology has also come along quite dramatically, even within the last two years. Now some telephone companies are attempting to provide their users with the facility to access the Internet via their phones, either with the help of a palmtop computer such as a Psion or a Palmpilot, or directly from the telephone handset itself. I confess, when I'm away from home I usually can't resist the temptation to check my email with my Psion and my mobile.

So long as your phone can receive SMS messages, you can now pay various companies to send important email messages to your phone. Nearly all modern digital mobile phones support SMS, which stands for Short Message Service, and it's a system that allows for the transfer of text messages of up to 160 characters in length.

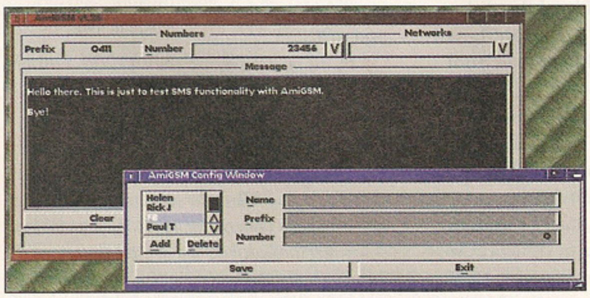
As well as being able to receive SMS messages, many phones can send them too, although typing out all but the shortest of messages using a mobile phone's keypad is something of an ordeal.

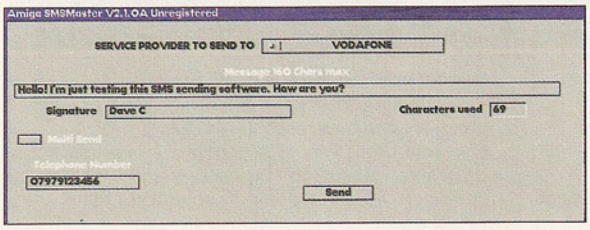
Among the services available are Mailpush, eMobile and Airmail. Mailpush charges you a monthly rate which includes the delivery of a certain number of messages to your phone each month, while Airmail charges a flat rate plus an amount per message. eMobile charges similarly to Airmail, although it places a limit on the



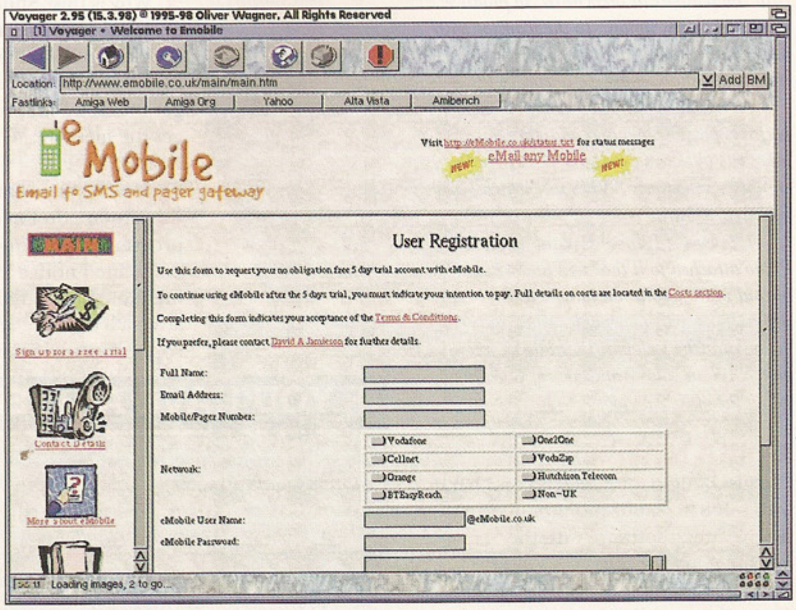
Mailpush uses a system of filters when checking your POP3 account for important emails.

***AmiGSM* uses *ClassAct*, giving it a simple, if slightly inelegant, interface.**





***SMSMaster* is specifically tailored for use in the UK.**



eMobile offers a free five day trial.

NAME THAT TUNE

If you do happen to have a modern phone, particularly if it's an Ericsson model, there's every chance that it's got one totally useless but hugely amusing feature: the facility for you to program your own ring melody.

Yes indeed; if you want to stand out from the crowd, you don't want Greensleeves or Für Elise to play when your phone rings – you want the *Star Wars* theme or the riff from Michael Jackson's Beat It or even, god forbid, the Macarena. Mobile phones may have a distinctive knack of strangling any tune they get their evil little speakers on, but at least it'll be something different. My phone plays Layla by Derek and the Dominoes, and sad though that may sound, it's always a talking point!

If you're totally devoid of musical talent, you'll be pleased to know that mobile melodies are easy to come by on the Internet. Pop along to one of the many tune archives, key the notes of your favourite melody into your mobile and you'll never have to check your phone again every time someone calls somebody else in the same room as you.

One of the largest collections of melodies on the web can be found at Mobile Melodies, which contains everything from Abba to Zwampe, whoever they may be. Whatever you're into, you should be able to find it there.



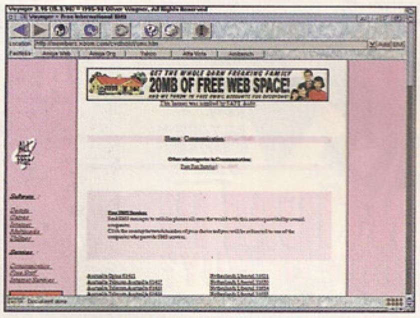
Mobile Melodies is brimming over with cheesy tunes you can pop into your mobile.

number of messages you can receive each month.

At the moment it's probably true to say that these services are of limited usefulness. Mailpush certainly seems the best of the three: it monitors your regular POP3 mailbox and notifies you when important messages arrive. Although you can use filters to screen out unimportant messages or ensure the service only notifies you when messages from particular senders are received, I found it didn't notify me very quickly when those important emails actually arrived in my mailbox.

Airmail and eMobile are slightly less practical as they simply notify you when someone sends an email to a specially created email address. Airmail also lets you send email from your phone, although typing out a 160-character message on a mobile phone is a bit of a chore. My suspicion is that services like these will need to be far more user-friendly and functional, as well as less expensive, if they're to really take off.

Fortunately you can take advantage of the SMS capabilities of modern phones simply by having an Amiga and net access. That's because there are



All4Free provides a gateway to SMS centres all around the world.

quite a few Amiga programs available online which are specifically designed to allow you to send SMS messages to mobile telephones.

SMSMaster is one of the best. It won't let you page One2One phones, but you can send SMS messages to Orange, Vodafone and Cellnet users. You'll have to pay for the call to the appropriate SMS centre, which then forwards the message to the intended recipient, but this will probably only be a few pence. It's generally cheaper than ringing a mobile phone because even though both connections would likely be charged at the same rate per minute, the call involved in sending an SMS message will usually be shorter.

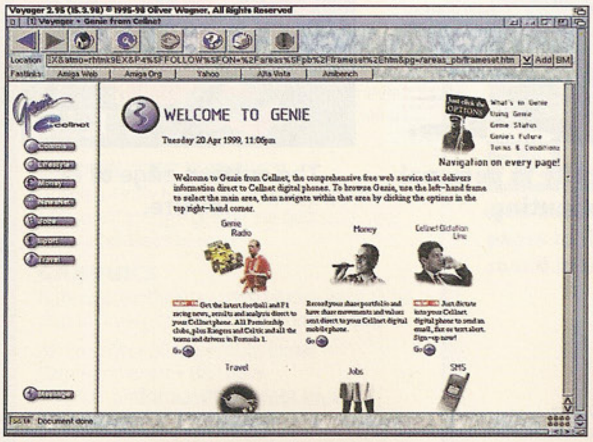
If you don't fancy *SMSMaster* you could try *AmiGSM*, which is available on Aminet. Both programs feature built-in phone books in which you can store frequently used mobile numbers. The biggest difference between the two is that *SMSMaster* is UK-specific, whereas *AmiGSM* provides a lengthy list of phone companies from around the world, although only a couple of the UK services are included in that list. Both of these programs are Shareware, so if you use them regularly you should register the software.

You don't even need to go to the trouble of downloading and installing one of those programs to page a friend's mobile though. There are a number of Internet-based SMS gateways which enable you to page mobiles without paying anything, other than the cost of accessing your ISP, of course.

Even if you don't own a mobile yourself, if you know someone who does then these are worth checking out because they can save you the extortionate cost of actually calling them using your domestic phone line.

There used to be dozens of unofficial SMS gateway sites around the world, but in recent months many of them have disappeared, presumably having been overloaded with demand as SMS has begun to catch on in a big way.

There's a nice free SMS site at All4Free though, and there are also now official SMS gateway sites for those wanting to send messages to Orange and Cellnet users. Vodafone say they are developing one as well.



Cellnet's Genie site includes an SMS gateway.

USEFUL URLS

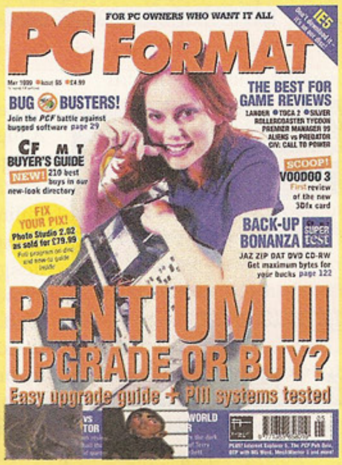
Airmail – http://www.airmail.co.uk/
eMobile – http://www.emobile.co.uk/
Mailpush – http://www.mailpush.com/
Mobile Melodies – http://www.smartmedia.nl/mobile_melodies/
SMSmaster – http://www.haigh1.demon.co.uk/sms.html
Free SMS gateway – http://members.xoom.com/cvdholst/sms.htm
Web SMS to an Orange phone – http://www.uk.orange.net/register/messaging/info.html
Web SMS to a Cellnet phone – http://www.genie.cellnet.co.uk/
Cellnet – http://www.cellnet.co.uk
One2One – http://www.one2one.co.uk
Orange – http://www.orange.co.uk
Vodafone – http://www.vodafone.co.uk

If you've got a PC as well,

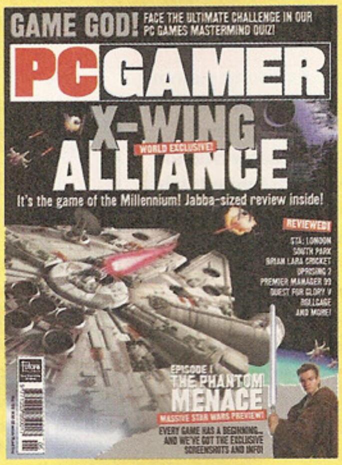
WE'VE GOT IT COVERED!



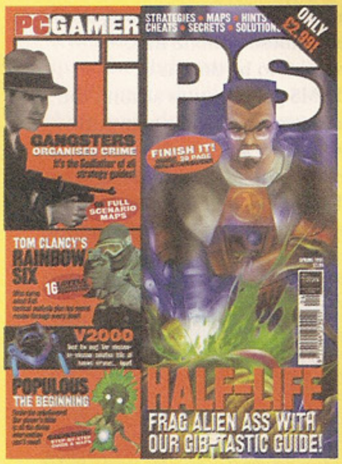
The essential guide for anyone who wants to make the most of their PC.



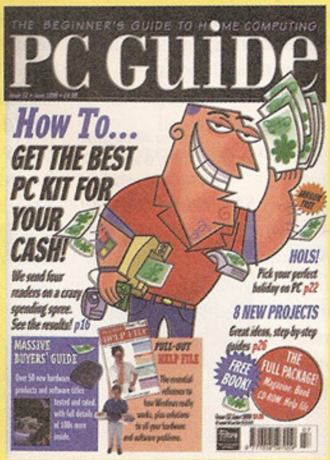
The world's best-selling PC leisure magazine.



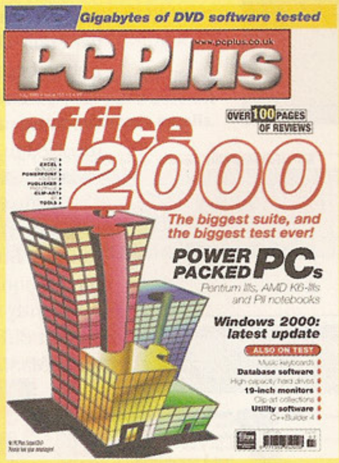
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CREATIVE

The indispensable guide to getting the most out of your Amiga



This is an issue for both sadness and joy. Sadness, because we're bidding farewell to Neil's Using HTML tutorial. In this last instalment, he shows you how to add multimedia content to your sites. There's joy because we're saying hello to a new programming tutorial, Program Perfection, by yours truly. Yes, I'm going to don my mortar board and attempt to enlighten you, the readers, in the complexities of software development.

If all this change is just too much for you, be consoled by the fact that our other two tutorials are progressing nicely. Simon demonstrates this issue that not only is he a competent metal-basher, he is also a musical theologian.

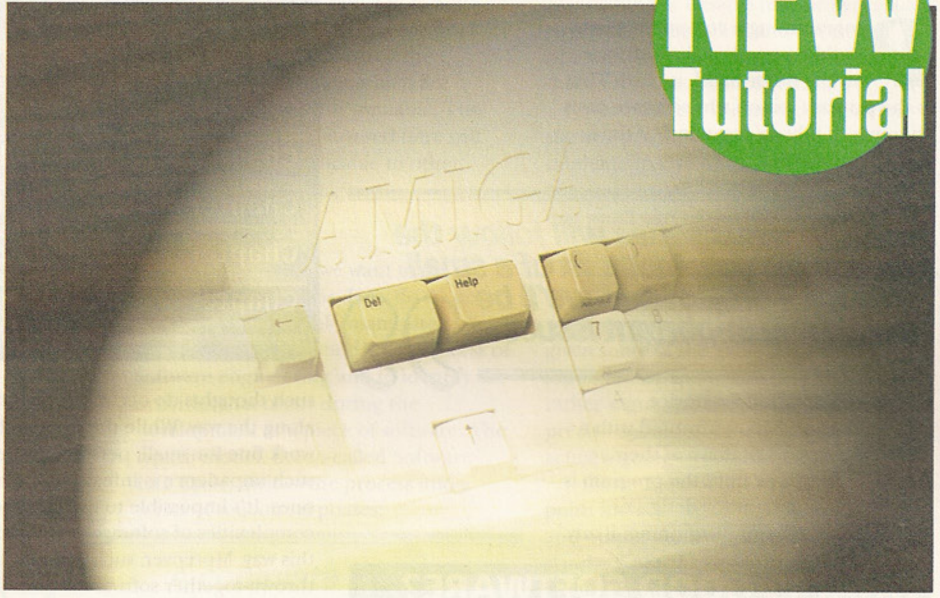
Finally, in this episode of Useful ARexx, Nick introduces you to string processing, the mainstay of the majority of computer tasks.

Richard Drummond

66 PROGRAM PERFECTION

Richard Drummond launches into a new series with the aim of teaching you how to create good, reliable software.

NEW Tutorial



68 USEFUL AREXX

String processing functions are required by most software. **Nick Veitch** shows you how to go about using them in ARexx.

70 BANGING THE METAL

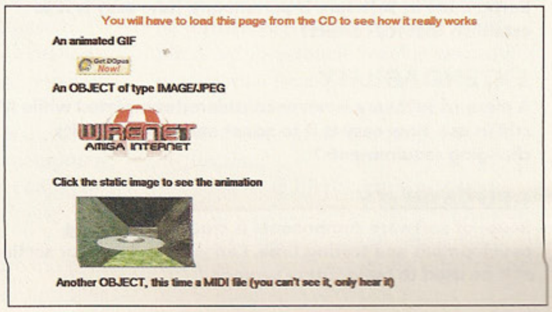
If you follow **Simon Goodwin**'s lead, your Amiga will be singing harmonies that you would have never have believed existed.



Pythonesque cruelty or useful, low-down hardware hacking? Read Banging the Metal to find out.

72 USING HTML

Neil Bothwick brings your web pages to life with animations and sound in this final tutorial.



This web page is actually a lot more interesting than it looks. Why not view it on the CD to find out why?

SEND IT IN!

WE NEED YOUR INPUT.

Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

PROGRAMMING

Is there a language you can't get to grips with? Or maybe you want to know how to do a specific thing in C or ARexx? You might never find the answer unless you write in and tell us about it!

UNDER THE BONNET

Unsure of how how your Amiga really works. Not sure if you are getting the best from your hardware? Write to us.

GRAPHICS

Is there something you desperately want to be able to draw? Drop us a line! Contact us at:

AF Creative • 30 Monmouth Street
Bath • Somerset • BA1 2BW
or email: amformat@futurenet.co.uk
putting "Creative" in the subject line.

Program Perfection

Writing software is a complex business. This brand new tutorial from Richard Drummond shows you how to go about it.

NEW Tutorial

Contents:

Chapter 1: The bigger picture
Chapter 2: The design process
Chapter 3: Source code management
Chapter 4: Error handling
Chapter 5: Bottoms up?
Chapter 6: Building the GUI (part 1)

Make sure you don't miss a tutorial in this series. Call our subs hotline on 01458 271102.

Programming a computer is easy. Building good quality software, on the other hand, is hard. That is the primary reason why software costs so much. It takes a great deal of time, thought and effort.

> "This series will follow the development of a small software project and we'll be discussing important issues..."

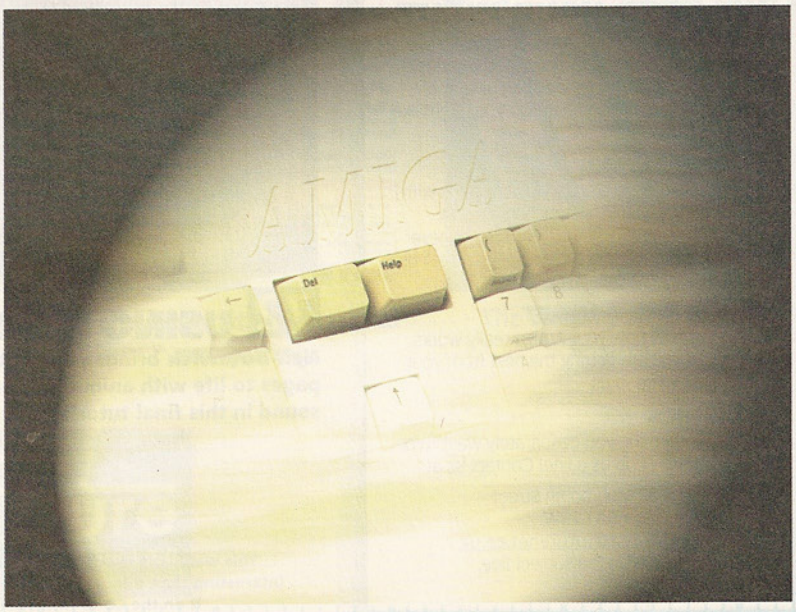
The temptation for novice programmers when confronted with a problem is just to sit down at their computer and type until the program is finished. No thought for design or testing is given before beginning; if any such thoughts do occur, they happen along the way. While this approach may work fine for small, personal projects, such impatience is infeasible for larger ones. It's impossible to manage the complexities of software development this way. Moreover, such sloppily thrown-together software is unfit for public consumption.

THE PLAN

Many tutorials have been presented in the Amiga press with the aim of teaching you how to use a particular programming language's features or how to harness different aspects of the Amiga's operating system. Such knowledge is vital for producing good software but I haven't seen any tutorials that attempted to give you the bigger picture of software development. That's the aim of this one.

This series of tutorials will follow the development of a small software project and we'll be discussing important issues that are raised during its evolution. The intention is that by seeing how such a project comes together, you'll feel more confident about undertaking your own. It should help you to avoid some of the mistakes that inexperienced programmers make.

This tutorial isn't intended to be a treatise on software engineering, though. There are many good books available on this subject. We won't be applying any one particular methodology or using any rigorous or formal techniques as such things are beyond the scope of this magazine.



WHAT IS GOOD SOFTWARE?

The aim is to produce good quality software. What do we mean by this? Well, there are a number of obvious external properties that characterise good software:

CORRECTNESS

Does it produce the right output when fed normal data? Clearly, incorrect software is of no use to anyone.

ROBUSTNESS

Is it able to handle circumstances outside its design requirements? Does it fail gracefully with no loss of data?

EFFICIENCY

Does it make the best use of CPU time, computer memory, disk storage, etc?

EASE OF USE

These characteristics are all that's required from the point of view of the user. However, software also has internal characteristics which are hidden from the user. These are important because they're instrumental in achieving the external properties listed above.

TESTABILITY

Correctness of software is paramount. How easy is it to establish that it's correct?

EXTENDABILITY

A piece of software is never considered completed while it's still in use. How easy is it to adapt and modify for its changing requirements?

REUSABILITY

Reuse of software components is crucial in reducing development and testing time. Can your software or sections of it be used to build future projects?



THE PROJECT

The piece of software that we'll be constructing over the coming months is a text viewer which, for want of a better name, shall be called *AFMore.* Before everybody starts groaning, listen. This text viewer is certainly going to be more advanced than the system standard, *More.* It will offer a proper GUI with scroll bars and a tool bar and will have features such as searching, the copying of text to the standard clipboard and an ARexx port. This project was chosen because it contains a lot of diverse elements which can be used and built upon for larger projects.

The design retains enough simplicity to be useful for teaching purposes and to fit within the constraints of the magazine, plus it'll yield tangible results fairly quickly, which is a fairly important consideration. Another contributing factor is that I have yet to see such a utility that satisfies all of my requirements as a user.

Topics we'll cover in this series will include general issues such as the design, construction and testing of the project, source code management and sensible error handling. We'll also deal with issues more specifically concerned with the Amiga, such as the creation of font-adaptive GUIs, screen-adaptivity and localisation.

The graphical interface for this project will be built using *BOOPSI,* the Amiga's *Basic Object Oriented Programming System for Intuition.* There are many reasons for this. The other standard GUI interface on the Amiga, *GadTools,* is simpler but is too restrictive and doesn't lend itself to object orientation. Other third-party GUI kits like *MUI, ClassAct* or *BGUI,* which may have benefits such as prettiness, configurability or ease-of-use, aren't standard. Whichever of these you choose, you'll surely dissatisfy somebody. In any case, all such add-on kits are based on *BOOPSI* so the work here won't be wasted.

The language we'll be using for the development is *C.* Although *C* lacks many of the facilities one would wish for in this type of programming, it has the clear advantage of ubiquity. *C* is the language that the majority of Amiga software is written with, most tools cater for and most documentation is written for. *C* compilers are commonly available for the Amiga and two very good ones are available freely: *GNU C* and *VBCC.* See pages 52 to 54 for our comparison of the *C* compilers which are currently available. The topics covered here will nevertheless be applicable to other programming languages.

THE PROCESS

We now know what we want to do, at least in general terms. How do we go about it though? Well, many attempts have been made to model the process of software engineering and to identify the activities that occur during the development of a piece of software. The typical model, the so-called Software Life Cycle, divides the process into a series of sequential phases:

> **"A complete and unambiguous statement of the purpose of the software should be produced."**

REQUIREMENTS SPECIFICATION. The initial stage is to determine what problem needs to be solved. A complete and unambiguous statement of the purpose of the software should be produced, usually in natural language.

ANALYSIS. Once the problem has been specified, solutions can be proposed. The viability of possible solutions are assessed and a particular solution chosen. Choices to be made here include the implementation language, system requirements, etc.

DESIGN. Once an approach to the problem has been chosen, it's time to start solving it. There are four aspects to consider: data structure, software architecture, interface representations and procedural (algorithmic) detail.

IMPLEMENTATION. This is the task of translating the design into a computer-readable form, or the actual coding of the software.

TESTING. Once the software has been coded, it must be tested to ensure that it's correct. Testing should exercise every line of code and ensure the correct output is produced.

MAINTENANCE. After the software has been delivered and is used, modifications will inevitably be necessary. This may be due to any bugs uncovered or because the needs of the users change.

This model is rather artificial. There really is no such sharp delineation between phases and no one-way linear progression. For example, the prototyping of designs may be necessary to test their feasibility, and the design phase itself is likely to raise problems that weren't thought of before.

Nevertheless, the model is a useful starting point. Notice that the implementation phase, the actual typing of source code into a computer, is just one small part of the process.

THE BEGINNING

The first step, then, is to define the requirements of *AFMore.* I may have given some of the game away by my stated intentions, above, but that was all rather vague. We need a much more precise definition of what the program is actually going to achieve.

Obvious questions to ask at this point include what the program's input and output are. Well, the input is a standard ASCII text file and the output is a window displaying that file. But what do we mean by ASCII? It's supposedly a standard format but it's interpreted differently on different computer platforms. This is an Amiga program so it would be sensible to adopt the Amiga's definition of ASCII.

A notable point here is that new lines in the text are signified by the line feed code, 10 in decimal. But this raises more questions. What should we do with carriage return codes, plus line feeds and tab characters? How should we treat other non-displayable ASCII codes? Should we attempt to differentiate between files that look like binary files and those that look like text files?

As you can see, we've only just begun thinking about the requirements of our software and already we have a lot of decisions to make. It may be possible to answer all such questions at this stage. On the other hand, these questions may only become resolvable once we starting getting down to the actual design stage. Nevertheless, it's a good idea to try to pin down in as much detail as we can exactly what we expect from our software. A description in English, or whatever your preferred tongue is, will do just fine.

Next issue I'll present you with a specification of *AFMore* and then we can begin tackling the design issues. Until then, why not try answering some of the questions posed above.

Useful ARexx

Nick Veitch discusses manipulating strings and functions in his attempts to make ARexx useful.

One of the great features of ARexx is its great range of string manipulation functions. In fact, there are so many that I'll have to leave some of them until a future chapter, but I'm going to spend some time on the PARSE command because it's so useful. If you can handle strings properly you can get input for your scripts, manipulate it and direct other ARexx supporting software. All ARexx commands supported by software like *ADPro*, etc, are just long strings, so you have to be able to construct the strings, insert different values and transmit them to use other software. PARSE is invaluable for this.

In fact, we've already been using the PARSE command. The PULL statement we've used in previous chapters is just a special case of PARSE. It's full purpose is to apply a template to a string received from a variety of sources, splitting it up and assigning other variables to it.

A simple use might be splitting up comma-separated data from a database, for example. This is how it might work:

```
/* simple PARSE example */

input = " Honda CX500,red,500,petrol,2"
PARSE VAR input model "," colour "," engine "," fuel
"," passengers
SAY "The model is " model
SAY "It's in a nice shade of " colour
SAY "The engine capacity is " engine
SAY "The fuel type is " fuel
SAY "The max number of passengers is " passengers
```

The full syntax for PARSE is:

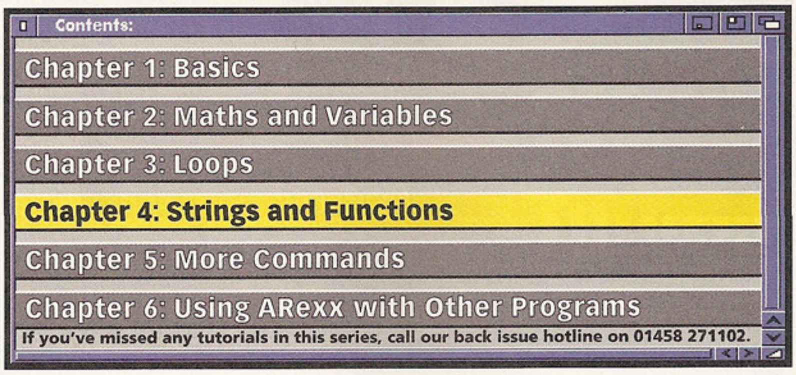
```
PARSE [UPPER] source [template]
[,template …]
```

The optional UPPER switch will covert all input into upper case characters, which is why all the strings you get via the PULL statement are in upper case, no matter how you typed them in.

The source can be any one of a number of options. We'll go through them here one by one:

ARG

This is really a special case of PARSE, and like PARSE UPPER PULL, it also has its own shortcut, ARG(). Basically, it uses the argument supplied to the ARexx script when it was run as its source. So, if you run a script like this:




```
rx test.rx debug
```

then the argument string is "debug". The reason you may want to PARSE it is because when you run an ARexx script from a Shell, as opposed to calling it as a function from another script, the argument is always one string, no matter how many real "words" are in it.

EXTERNAL

This is the same as the PULL option, only it takes the STDERR console as its source. This is usually only open when the ARexx tracing console is open, so its primary use is for intelligently debugging complicated scripts.

NUMERIC

This option is used for probing the current numeric settings of ARexx. The source string is made up of the current settings for Digits, Fuzz, and Form, the first two of which are numbers, the latter being a string containing either "SCIENTIFIC" or "ENGINEERING". These values can usually be more easily obtained using the FORM(), DIGITS() and FUZZ() functions.

> **"If you can handle strings properly you can get input for your scripts, manipulate it and direct other software…"**

PULL

This is the standard way of getting keyboard input. You might prefer to use the PULL statement, but using PARSE without the UPPER keyword specified enables you to accept lower case characters instead.

COMING SOON

Many thanks to the readers who have contacted me asking about adding a GUI to ARexx scripts – we'll be covering that very subject shortly!

SOURCE

This uses a string containing details about the way ARexx was invoked as its source. The format of this string is: "Type Results Called Resolved Extension Host".

Type is either "FUNCTION" or "COMMAND", Results is either 1 or 0 to indicate if the script is expected to return a value, Called, is the actual command that was issued to run the script and Resolved is the full path name of the program. Extension is the file extension used for searching for scripts, "usually "REXX", and Host is the Host Port of the script, which will also usually be "REXX", unless it's initiated from within another program.

This usage can be particularly handy if your script could be called on its own, from another script or from inside another application, and this is the best way of telling if you need to know. An example of this type of string might be:

```
"COMMAND 0 Example
Work:Development/Scripts/Example
REXX REXX"
```

VALUE… WITH

This is another useful variant. In this case, whatever comes after VALUE and before WITH is evaluated and the result parsed with the template, appearing after WITH. The WITH is necessary to determine where the statement to be evaluated ends.

The most commonly used instance of this would be:

```
PARSE VALUE  TIME() WITH hour ":"
min ":" sec
```

which neatly splits the time into separate variables for hours, seconds and minutes.

VAR

This is by far the most frequently used option, at least in my programs anyway. As a further example, here's a rather ugly looking line of code taken from a script I wrote to keep track of share prices. The program downloaded a free share price page from the Internet as HTML, but I needed to get it all into a nice format for use in other software. I used the PARSE command to strip out all the nasty HTML tags and formatting nonsense, leaving me with just the values I wanted.

```
<tr><td><font size=-1><input
type=checkbox name=FTO
value=delete></td><td
align=right><font size=-1><img
src=/images/up01.gif></td><td
align=left><font size=-1><a
href=stock.cgi/FTO>FORTUNE OIL
(FTO)</td><td align=right><font
size=-1>GBX</td><td
align=right><font size=-
1>2.75</td><td align=right><font
size=-1>3.5</td><td
align=right><font size=-1><font
color=0000a0><b>3.25</b></td><td
align=right><font size=-1><font
color=0000a0><b>+0.25</b></td></t
r>
```

Each line of the HTML file would look something like this:

```
PARSE VAR input junk "name=" code
"Value=" junk "stock.cgi" junk
"size=-1>" junk "size=-1>"
openprice "</td>" junk ....
```

As there are some parts of the code which change size, like the real name, there was no way of just grabbing the data from specific parts of the code, so I used the PARSE command to use the tags as separators

The junk variable is used to collect the stuff I'm not interested in, which means I don't have to use extremely large separator strings. The actual line of code I used was a lot longer, but there's no reason why you can't split it up. ARexx, equipped with PARSE, is great at unravelling HTML.

VERSION

This is really a special case and it isn't as useful as it once was, It takes system information as its argument, which comes in the format:

```
" ARexx VERSION_NUMBER CPU FPU
VIDEO_FORMAT CLOCK_FREQ".
```

For example:

```
PARSE VERSION versioninfo
```

might place something like "ARexx V1.15 68020 NONE PAL 50Hz" into versioninfo. Sadly, ARexx isn't really able to identify things like a PPC or even an '060 this way, and as far as it's concerned you either have no FPU or you have a 68881. The video mode could conceivably be useful though.

I hope this has given you some idea of the flexibility of the PARSE command, and of ARexx string handling in general. Experiment with it yourself, but we'll be returning to it later when we start writing some real programs.

Next month we're going to discuss dealing with files and using Shell commands within ARexx. Then we'll know enough to write our first really useful program!

> "I hope this has given you some idea of the flexibility of the PARSE command, and of ARexx string handling..."

OTHER USEFUL STRING COMMANDS

ARexx has been blessed with a multitude of different string commands.

CENTRE (<string>,<length>,[<padchar>])
This simply centres the given string into a larger string of specified length.
E.g. result = CENTRE ("Heading", 15,"-")
will fill the result string with "——Heading——"

COMPRESS (<string>, [<list>])
This command removes all the specified characters from a string. By default it removes all spaces.
E.g. result = COMPRESS ("£1,650,241", "£,")
will return "1650241"

COPIES (<string>,<number>)
A useful function for creating long strings, it simply returns the string, added the specified number of times, onto itself.
E.g. result = COPIES ("-", 10)
will return "——————"

DELSTR (<string>,<number>, [<length>])
Deletes a specified amount of characters, starting at a position indicated by number.
E.g. result = DELSTR ("The boy stood on the burning deck", 17,11)
returns " The boy stood on deck"

INSERT (<new string>, <old string>,<startpos>, [<length>],[<padchar>])
Rather like overlay, but inserts characters rather than replacing them. The new string is inserted in the old string at the starting position. Length defaults to the length of the new string, but if specified the new string will be padded or truncated to that value.
E.g. result = OVERLAY ("lots of ", "Colin likes beer", 12)
returns "Colin likes lots of beer"
Or for a more complicated (but useful) example:
text = "This Format mag is great"
newtext = INSERT ("Amiga ",text, FIND(text, "Format"))
returns "This Amiga Format mag is great"

LEFT (<string>,<length>,[<padchar>])
Returns the Leftmost part of the string, <length> characters long. If the string isn't that long, optional pad characters are used to fill it up.

LENGTH (<string>)
Returns a numerical value equal to the number of characters in the specified string.

OVERLAY (<new string>, <old string>,[<startpos>], [<length>],[<padchar>])
Overlays a new string onto the old one, starting at Startpos (which defaults to the beginning of the string) for <length> number of characters.
E.g. result = Overlay ("CX500", "The Gt550 is great",5,5)
will return "The CX500 is great"
E.g. result = OVERLAY("791", "9999999999",3,4,"0")
will return "9979109999"

REVERSE (<string>)
Quite simply reverses the character order in a string.

RIGHT (<string>,<length>,[<padchar>])
Returns the rightmost part of the string, <length> characters long. If the string isn't that long, optional pad characters are used to fill it up.

STRIP (<string>, [{'B'|'L'|'T'}], [<list>])
Removes characters, specified in <list>, from either the leading, trailing or both ends of the string.
E.g. result = STRIP (" 0001051.99 ", B, " 0")
returns "1051.99"

SUBSTR (<string>, <startpos>, [<length>],[<padchar>])
Will return the substring of the input from the start position for the number of characters denoted by length. If the length is greater than the total length of the string, it can be padded out with a pad character.
E.g. result = SUBSTR("That remark is a foolish one", 8,14)
will result in, well, work it out!

TRANSLATE (<string>,[<output table>], [<input table>],[<padchar>])
This is one of those simple but powerful functions which just takes the string and translates the characters which appear in the input table with corresponding values from the output table. If the character has no match in the input table it can optionally be replaced with the pad character.
E.g. result = TRANSLATE ("12345", "abcde","54321")
will return "edcba"
Result = TRANSLATE ("acafagaatattat", "1", "a","0")
will return "10101011010010"

TRIM (<string>)
Removes trailing blanks from the string.

UPPER (<string>)
Converts the string into UPPER case. This is faster than Translate, and it also correctly handles any foreign characters.

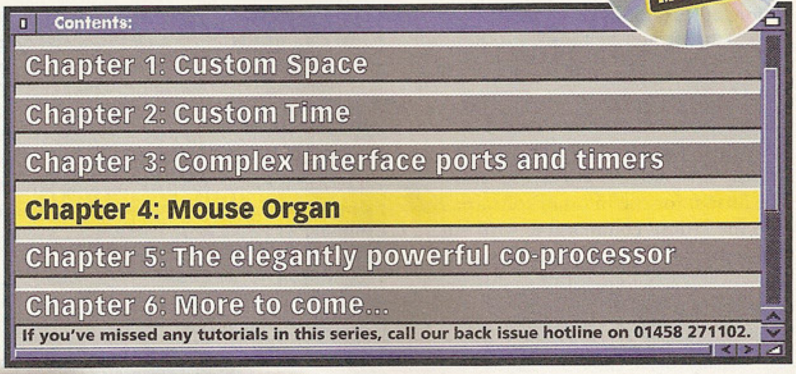
XRANGE ([<begin>, [<end>])
An occasionally useful function which generates a list of all the characters between Begin and End.
E.g. result = XRANGE("r","z")
will return "rstuvwxyz"

Banging the Metal

Simon Goodwin unveils a metal-bashing organ and some advanced musical theory.

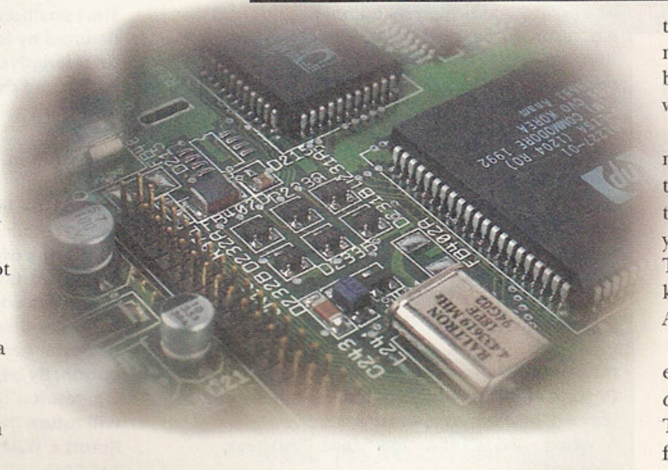
AFCD41:-In_the_Mag-/Banging_The_Metal

ON THIS MONTH'S CD



This month I present a complete, all-singing, metal-bashing application. The program is written and tested in Sinclair *SuperBASIC*, under the Amiga *Qdos* emulator, for ease of development. *Qdos* is ideal for hardware programming experiments because it gives you an interpreter and device drivers that don't rely on the Amiga hardware. You can bash away at the custom chips in a secure environment and get results very quickly indeed.

The program is generic and could be converted to run in *HiSoft BASIC*, or adapted for *Blitz* or even (spit!) Microsoft, GFA or *Amos BASICs* too. Watch out for a full comparison of Amiga *BASICs* in a future *AF* feature.



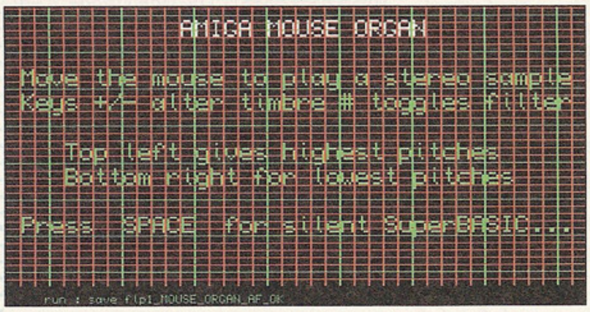
MOUSE ORGAN

The *Mouse Organ* is named after a cruel instrument operated with mallets in a Monty Python sketch, but it sounds a lot more musical. In fact it produces more accurate chords and harmonies than pianos or plain MIDI can manage. It's a stereo mouse-controlled organ. Four simple preset waves allow a choice of timbre, and you can switch the filter on and off as you play. The sounds are necessarily simple, but you could substitute any raw sample in place of the presets.

The *Mouse Organ* has a range of eight octaves, about the same as a grand piano, but the term 'octave' is a misnomer. Music revolves around ratios rather than absolute frequencies or wavelength periods. Amiga hardware outputs byte values, in the range -128 to +127, read from a table. Levels in this table or 'sample' are output repeatedly by Direct Memory Access, generating sound waves. The time period between outputs determines pitch.

Western music uses scales of eight notes chosen from 13. That set is selected to generate pleasing sequences and harmonies when notes are played together. If you play the first and eighth notes together, the wave pattern of the higher note repeats three times for two repeats of the lower pitch. These sound good when played together. The ratio is known as a 'perfect fifth' as the eighth note is the fifth from a scale of eight.

> You can bash away at the custom chips in a secure environment and get results very quickly indeed.



The *Mouse Organ* playing in Amiga *Qdos*.

Other pleasing ratios include 5:4 (a perfect third), 2:1 (an octave), 4:3, and so on. Unfortunately, the Western scale doesn't map exactly onto all the pleasing ratios. It's a compromise, which makes sense if you're trying to cover all the scales with a keyboard a human hand can span, but it's unnecessarily restrictive for computer music. The Amiga allows more accurate tuning for better riffs and harmonies.

Since the invention of the piano, notes have been evenly spaced. This 'even tempered scale' gives roughly the right eight ratios, wherever you start. If the piano were turned to just one start note it would sound better in that key, but tunes starting with another note would sound out of tune.

You can improve things by having more subdivisions, like the quarter-tones of Indian and Egyptian music, but the ratios don't fit much better until you step up to 53 notes per octave. That's infeasible for a mechanical keyboard but no problem for the Amiga's maths or sampling resolution.

Of course, you don't play all 53 evenly-spaced notes, just the combinations that give pleasing chords. The *Mouse Organ* uses an ancient scale, familiar to blues, early Christian and ancient Greek composers. This 'pentatonic scale' picks five notes per octave, with the interesting property that all combinations give simple ratios and hence pleasant chords. And the 53 steps make these more accurate than you can get from normal scales without subtle pitch-bending, tricky on pianos.

USAGE

When you RUN the program it displays a grid where horizontal and vertical locations correspond to notes in the scale on each channel. Move the mouse from bottom left to top right to play an ascending scale on both channels. All combinations give harmonious ratios.

To cycle through four variations of timbre, corresponding to the waves in the DATA statements and the diagram, press plus or minus. You can add more realistic waves by loading longer raw samples in place of these patterns.

These simple examples have sharp edges which generate odd harmonics. Press # to toggle the smoothing filter on and off and press SPACE when you've heard enough.

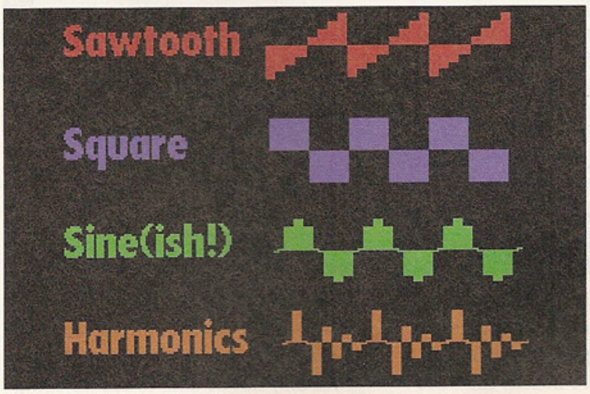
THE PROGRAM

There are notes on the program on the

AFCD; this discussion outlines its general principles. The first ten lines build a NOTE% array containing wave periods for an eight octave range. The array holds arbitrary integers, but floating point arithmetic preserves accurate intermediate results.

The initial value of HERE determines the lowest pitch. Successive notes are scaled by the 9th, 17th, 31st and 39th power of the 53rd root of two, giving precise pentatonic steps to the next octave, with twice the frequency and half the period of the one before.

The next lines assign names to Amiga hardware addresses and read four short wave patterns from DATA



The four unfiltered waves which are used by the *Organ*.

into a small area of chip RAM which Amiga *Qdos* leaves free. The CD version uses more elaborate memory allocation, allowing much longer waves. The next dozen lines display the grid and instructions in a new screen window, #3. These are just 'chrome' but they give visual feedback to the user.

The real metal bashing follows, with six POKEs that initialise Paula audio channels 0 and 1 to maximum volume, point the AUD_LC registers at the start of the wave and set the lengths in AUD_LEN to eight samples, or four words. Two more POKEs disable modulation interaction between channels and start DMA for audio channels 0 and 1.

The top bit of these registers determines whether other bits are set or cleared, as explained in part 2. The first POKE_W clears the low eight bits in ADKCON. The second sets the bottom two in DMACONx, as -32768 yields a word with the most significant bit set.

The REPeat loop plays notes corresponding to the mouse position and key controls. X and Y pointer positions from 0 to 239 are converted to note numbers, 0 to 39, by dividing by six. The period for each channel is set according to rates in the NOTE% array. As the mouse pointer moves, the pitches are changed according to the precalculated scale.

The INKEY$ function reads the currently-pressed key character into K$. A space (ASCII character 32) breaks out of the loop, closing the window and turning off the pointer and sound DMA. Otherwise, if the hash key is pressed, the filter is switched by toggling the value of the second bit in CIAA port A, as explained in part 1 of this series.

The plus and minus keys cycle between the preset waves by stepping the VOICE offset backwards or forwards between 0, 8, 16 and 24, to point at each wave in the area starting at CHIPX. If you use more detailed waves, or a mixture of sizes, add arrays holding the base and length of each. You could include hundreds of distinct samples. Just put the raw sample values in chip memory and set the start and size with POKEs.

This has been a detailed example of a complete application – I challenge anyone to write a 'system friendly' *Mouse Organ* more concisely! Next month's tutorial will take a simpler look at the Copper, showing how a co-processor with just two instructions contributes so much to the Amiga's power.

The SuperBASIC Mouse Organ

```
REMark ****** Amiga Qdos MOUSE ORGAN STEREO SYNTHESISER
DIM note%(39): root=2^(1/53):  REMark Pentatonic scale
note2=root^9: note3=root^17:   REMark musical pitch
note4=root^31: note5=root^39:  REMark constant ratios
here=28800: REMark Initial pitch or try 25920 or 32767
FOR tone=39 TO 4 STEP -5
   note%(tone)=here:          note%(tone-1)=here/note2
   note%(tone-2)=here/note3: note%(tone-3)=here/note4
   note%(tone-4)=here/note5: here=here/2 :END FOR tone

REMark ****** Amiga Custom Chip hardware addresses
chip_top=2^21: REMark Limit of chip RAM
pra    =HEX("BFE001"): REMark CIA A port A (filter etc)
DMACONx=HEX("DFF096"): adkcon =HEX("DFF09E")
aud0lc =HEX("DFF0A0"): aud0len=aud0lc+4
aud0per=aud0lc+6:      aud0vol=aud0lc+8
aud1lc =aud0lc+16:     aud1len=aud0len+16
aud1per=aud0per+16:    aud1vol=aud0vol+16

RESTORE : REMark Prepare four simple waves in Chip RAM
filt=0: voice=16: MaxVoice=32 : chipx=98688
FOR i=chipx TO chipx+MaxVoice-1: READ x: POKE i,x
DATA -126,-90,-54,-18,18,54,90,126:    REMark Sawtooth
DATA 127,127,127,127,-127,-127,-127,-127: REMark Square
DATA 0,90,127,90,0,-90,-127,-90:       REMark Sine wave
DATA 0,127,0,-127,63,-63,32,-32:       REMark Harmonics

PTR_LIMITS 0,0,239,239: PTR_POS 120,120: REMark Pointer
PTR_INC 1,1 : PTR_ON: REMark Display box grid of notes
OPEN #3,scr_480x240a0x0: CLS #3: FOR j=6 TO 239 STEP 6
  pen=3 + ((j MOD 30)=18): BLOCK #3,2,240,j*2,0,pen
  BLOCK #3,480,1,0,j,pen: END FOR j
CSIZE #3,2,1: OVER #3,-1: INK #3,7 :REMark Big heading
PRINT #3,\,"    AMIGA MOUSE ORGAN"\\:OVER #3,1:INK #3,4
PRINT #3;" Move the mouse to play a stereo sample"
PRINT #3;" Keys +/- alter timbre # toggles filter"\\
PRINT #3;"    Top left gives highest pitches"
PRINT #3;"    Bottom right for lowest pitches"\\
PRINT #3;" Press  SPACE  for silent SuperBASIC..."

REMark ****** Initialise audio hardware registers
POKE_L aud0lc,chipx+voice: POKE_W aud0len,4
POKE_L aud1lc,chipx+voice: POKE_W aud1len,4
POKE_W aud0vol,64:POKE_W aud1vol,64
POKE_W adkcon,255 :POKE_W DMACONx,(1+2)-32768

REPeat sing
   POKE_W aud0per,note%(PTR_X% DIV 6): REMark X pitch
   POKE_W aud1per,note%(PTR_Y% DIV 6): REMark Y pitch
   k$=INKEY$ : IF k$=CHR$(32) THEN EXIT sing
   IF k$="#": filt=NOT filt:POKE pra,PEEK(pra)^^(filt*2)
   IF k$="+" OR k$="-"
      IF k$="+" THEN voice=(voice+8) MOD MaxVoice
      IF k$="-" THEN voice=(voice-8) MOD MaxVoice
      POKE_L aud0lc,chipx+voice:POKE_L aud1lc,chipx+voice
   END IF :REMark A new wave table has been selected
END REPeat sing: CLOSE #3: PTR_OFF: POKE_W DMACONx,1+2
```

Using HTML

Neil Bothwick explains how to add the final touches to your site.

AFCD41:-In_the_mag-/Using_HTML



Contents:

Chapter 4: Lists
Chapter 5: Tables
Chapter 6: Frames
Chapter 7: Forms
Chapter 8: Imagemaps
Chapter 9: Animation and sound

If you've missed any tutorials in this series, call our back issue hotline on 01458 271102.

We have now covered the fundamentals of HTML. All the main elements have been dealt with and you should have enough information to create the HTML for a good website. Let's close this series with a bit of eye and ear candy.

Text and pictures are often enough to convey and illustrate your message, but there are times when a little movement or sound can improve the experience of visiting your site. It's also true that excessive use of these, or any other feature, can make your site a real pain in the neck. As with all things, moderation is important. If you're going to add a feature to your site, do it because it will improve the site, not simply because you can do it.

> There are times when a little movement or sound can improve the experience of visiting your site.

ANIMATED PAGES

Animations can be inline or external. Of the various inline animation formats available, the only one fully supported by Amiga browsers is the AnimGIF. This is used in exactly the same way as a static GIF image. Here's the full tag:

```
<IMG SRC="myanim.gif" ALIGN=LEFT
WIDTH="100" HEIGHT="50"
HSPACE="3" VSPACE="2" BORDER="0"
ALT="Anim">
```

Being identical to the format for a static GIF means you have no compatibility worries. Any browser incapable of displaying animated GIFs will display the first frame as a static image. The disadvantage is that there are no extra attributes to control the playing of the animation. All timing and looping information has to be in the image itself. GIF animations are suited to small animated buttons and logos, but you'll need another format if you want to include something more ambitious.

HTML has a tag for including any type of multimedia content in a document – the <OBJECT> tag. This is very flexible, allowing new data formats to be added easily, but it's hardly supported on the Amiga browsers. *IBrowse* and *Voyager* don't support it at all and *AWeb* only supports some of the attributes, but these are mainly the ones also handled by its MIME-type settings.

OBJECT has the facility to download the player for a file format if you don't already have it, but since there are no Amiga players for many of the newer file formats, it would probably be best to avoid using OBJECT for animations.

We may not be able to use anything but GIF for inline animations, but we can display any format externally, provided we have a suitable player installed and a MIME-type defined. Here is an example:

You will have to load this page from the CD to see how it really works

Here's a selection of animation and sound links, but you'll need to load the page from the CD to try them.

An animated GIF



An OBJECT of type IMAGE/JPEG



Click the static image to see the animation



Another OBJECT, this time a MIDI file (you can't see it, only hear it)

Click the image to hear the sample



Yet another OBJECT, but this one isn't recognised by the browser

Your browser either does not support the <OBJECT> tag, or it does not support this type of object.

```
<A HREF="Maze.mpg"><IMG
SRC="Maze.jpg" WIDTH="188"
HEIGHT="120" ALT="Click to see
anim"></A>
```

This will display a static image on the page (the first frame of the animation in this case) as a clickable link to the full animation. Provided the user has a MIME-type setting for MPEG video, with a suitable player, the animation will be shown by his chosen player.

This isn't the place for a detailed explanation of how to configure the MIME types in a browser, but it's important to understand that both browsers and servers use filename extensions to determine the type of a file. It's therefore essential that you use the correct extension for any file you link to on your website.

Most browsers can cope with a JPEG image saved with a .gif extension (it happens more often than you might think), but MPEG video saved with .anim would really confuse the system.

ADDING SOUND

Audio data can also be included in a web page, either inline or as an external link. There are two tags used to add inline audio. <BGSOUND> will play a sample when a page is loaded:

```
<BGSOUND SRC="sample.wav"
LOOPS="1">
```

This will play the sample once when the page is loaded. Setting LOOPS to "-1" or "INFINITE" will cause the sample to be played continuously. Be careful how you use BGSOUND as it's played every time the page is loaded. If you put it on your home or index page it'll be played each time a visitor jumps back from one of your other pages. If it gets too annoying they'll do one of two things: turn their speakers down or go elsewhere.

Similarly, LOOPS="INFINITE" should only be used rarely, and only with very soft sounds. A well chosen sample may create an atmosphere but a badly chosen one will drive people away. Most browsers can handle .wav format samples but many can also deal with MIDI files. WAV isn't a good format for web use as the files can get quite large. A visitor with a slow connection may have linked to another page before the BGSOUND finishes loading and plays. MIDI is a very compact format, loading quickly, but it can only really be used for music, not voice or sound effect samples.

<OBJECT> is somewhat more useful for audio than video since the Amiga is able to handle most audio formats now and these can be set up via MIME types. The following example will play a MIDI file, provided the browser has previously been set up to play MIDI:

```
<OBJECT DATA="walkof.mid"
WIDTH="1" HEIGHT="1"
TYPE="AUDIO/MIDI">If you can read
this, your browser either does
not support the &lt;OBJECT&gt;
tag, or it does not support this
type of object.</OBJECT>
```

All the information required to play the file is included as attributes of the <OBJECT> tag. DATA contains the URL of the data file – it's the equivalent of SRC in an IMG tag. WIDTH and HEIGHT are used by the browser to leave space for the file's contents.

Because audio isn't displayed, we set them as small as possible here. TYPE tells the browser to use whatever player is configured in this MIME-type. If the browser is unable to handle this type of file then it won't attempt to download it. There are other attributes that can even download the player if you don't have it, but none of the Amiga browsers currently support this feature.

"The key to a successful website is planning: work out what you want to say and how you want to say it..."

The text between <OBJECT> and </OBJECT> is displayed if the browser is unable to handle this type of object. You can nest <OBJECT> tags, effectively giving first, second, third, etc, choices of how the file should be handled.

The third way of playing sound files is through external files:

```
<A HREF="tune.mp3"><IMG
SRC="speaker.gif" WIDTH="25"
HEIGHT = "25" ALT="Play"></A>
```

will place an image in the document that will download and play the file when clicked. This is the most straightforward way of providing "on demand" sounds, as opposed to the automatic playing of BGSOUND and OBJECT. Unlike animation, there's no obvious difference between "inline" and "external" audio. It's usually best to stick with <BGSOUND> for sounds to be played immediately and <A HREF> for on demand audio.

Most audio MIME-type setups will download the complete file before passing it to the player, but there are also methods of playing "streaming" audio. This is where the sound is played in real-time as it's downloaded. Streamed audio is normally in MP3 or *Real Audio* format.

If you want to add streamed audio to your own pages then you'll need to speak to your web space provider. Most ISPs don't provide audio streaming for their home pages.

CONCLUSION

It's something of a tradition to finish a tutorial series with an example that uses all of the techniques that have been covered. We aren't doing that here because it goes against the whole principle of using what works, rather than using what you can. Using all the facets of HTML that we've covered would result in a total mess.

Consider HTML as a toolbox – you don't use every spanner and screwdriver you own on a single job just because you own them. The key to a successful website is planning: work out what you want to say and how you want to say it, then decide which of the HTML tools in your toolbox will achieve your objectives. Happy HTMLing!

META TAGS

This is a special tag you can use in the <HEAD> section of a page. The META tag provides a few miscellaneous features. It takes two attributes: the first is NAME or HTTP-EQUIV and describes the type of action the tag has. The second is CONTENT, to specify the details of that action.

```
<META NAME="REFRESH" CONTENT="5;URL=http://www.mynewpage.com">
```

will cause the browser to load http://www.mynewpage.com after five seconds. You can lower this figure but don't set it to zero or the visitor will never be able to go back to the previous page – every time he hits this page he will immediately jump forward again so leave a delay of at least one second.

```
<META HTTP-EQUIV="Expires" Content="Fri, 23 Apr 1999">
```

tells the browser to reload the page if the date is later than given, rather than using a cached or proxy copy. This is useful if your page contains time-sensitive information such as news, for example, and you don't want visitors seeing an old copy.

```
<META NAME="keywords" CONTENT="amiga,audio,graphics,multimedia">
<META NAME="description" CONTENT="Detailed information on using graphics, audio and
multimedia on the Amiga range of computers">
```

These two are usually found together and are used by search engines. Your site can be indexed more accurately if the keywords tag is found as the search engine will use this to index your page instead of picking words from the general content. The text in the description tag is shown by the search engine when it lists your page in response to a search. Search engines normally list the first couple of sentences of the page's text. By including your own description you can ensure that the search engine will report the information you want it to.



Mail*Bag*



Send your letters to: **Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Somerset • BA1 2BW** or email: amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

SPARE US	SEND US
• Long letters with loads of points. • Complaints that *AFCDFind* and *AFCDView* don't work without any info as to why. • Your missives on why company X should port their latest PSX/PC title to the Amiga. • Letters asking for Richard's job. • Technical questions which should be addressed to Workbench.	What you want to see in OS3.5. • Whether you'll pay a deposit for one of phase 5's new accelerators. • Your ideas for the shape of the Amiga's future. • General questions you want answered (not technical ones – that's what Workbench is for!). •

TO SUB OR NOT TO SUB?

Maybe you can help me as I'm in a bit of a dilemma at the moment. I live in Lowestoft (the most eastward point in Britain, you know) and the only place I can buy *Amiga Format* from is our local branch of WHSmith. However, I'm considering subscribing as it would be cheaper and helps to keep you guys afloat, but if I do so then I may be reducing the number of sales of the magazine at WHSmith and they may no longer stock the magazine any more.

I know that a reduction of one probably won't make much difference to WHSmith, but if everybody subscribed then surely the magazine will no longer be present on the shelves, and finally the word Amiga will disappear from the publications department, never to be seen again. Can you help me decide what to do?

Marc Catchpole
via email

It's a tricky one. While we appreciate everyone making sure that places like WHSmith have the mag on the shelves, we would rather you saved yourselves the cash and subscribed. I know it means a reduced presence in the newsagents, but I'd rather you spent the cash you saved on each issue of AF on your Amigas.

IT'S A WONDERFULLER LIFE

A few recommendations to make a wonderful mag even more wonderfuller (is that a word?). (No, it's not – picky Prod Ed.)

1 Cut the contents down a bit. Let's face it, everyone who reads *AF* has read it for a long time, we all know where everything is by now, so two pages aren't really needed any more, and its not as if you're going to get lost anywhere in the 90-100 pages, is it?

The same goes for the intro pages to each section – does anyone ever read them? Big pretty pictures are nice, but I'd rather be reading something. How about taking those five and a half pages and sticking them in at the beginning of the mag?

2 Do some original features. We've all read the same old piracy issue so many times it's almost engraved in our heads by now, and the same goes for the emulation. No, I don't know what you should put there instead – that's your job! The networking feature was good though, much more practical.

3 Bring back the big chunky coloured tabs down the side as it makes it easier to find the section you're after. Those piddley strips along the top aren't designed for "quick flickin'".

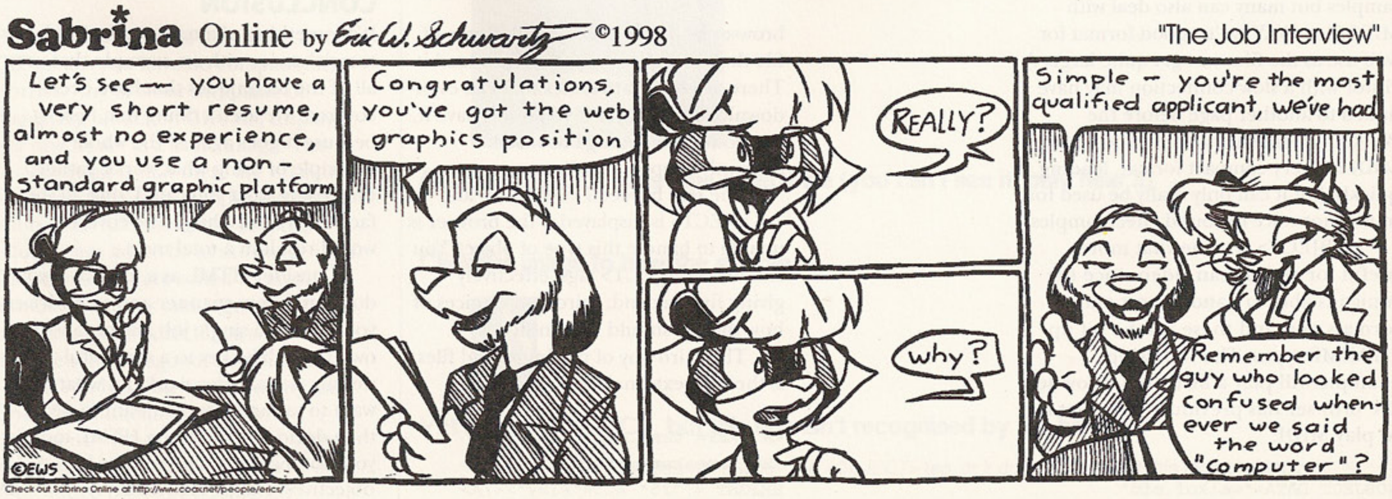
4 Get a new picture of John Kennedy! He's been stroking his pussy for ages! (Ahem.)

Everything else in *AF* is just about perfect though.

Matthew O'Neill
via email

Taking your last point first (just because it's nicer...), thanks. As for reducing the intros and contents in size, I don't think it would work. Part of the reason they are there is to break up the sections of the magazine, as well as to give info.

Some original features? Like what exactly? Expect to see some cracking new feature ideas in the next few months, but don't expect to see the large coloured borders to the pages come back – they were horrible!



Check out Sabrina Online at http://www.coaxnet/people/erics/

OCP AGA ANG?

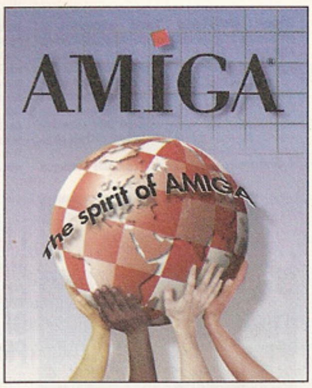
Amiga Inc. deserve respect. While we recognise the PC as being the monolithic dictator it currently is, it's not a patch on what Amiga Inc. have in the computer market: a dream. They have cunningly sold us the rebirth of the Amiga, and future compatibility between the Classic and NG platforms has been tentatively hinted at, with talk of OS upgrades, 68K emulation, InsideOut and so on. It all reminds me of *RoboCop*, where Dick Jones is presenting the new arm of law enforcement for Delta City. "Good business," he says, "Is where you find it."

There's no truer maxim for Amiga. The dream of AmigaNG will only be realised if good business is found in the current market. With the announcement of WoA 99 at Kensington, London, many users (like myself) will be scrimping and saving for all those bargains at the show.

I beg all users to upgrade. Buy OS3.5 because this encourages both developers and yourselves to move towards PPC purity, in turn promoting power, potential and presence among the PC dominance. It isn't inconceivable that Classic Amiga solutions, coupled with advanced AmigaNG design, will bring forth a new wave of operability between these systems. Will there be a new inter-Amiga networking standard, I wonder?

With the advent of PPC-G3/4s, faster A1200 Zorro-bus options, the A5000, BoXeR and so on, I bet Amiga Inc. never realised they'd have so much to win. Give them credit, financially and otherwise, and watch Billy Gates "no mates" trying to figure it all out.

Steve Dowe
via email



The spirit of Amiga, living on through Gateway.

AMIGA AMIGO

I am a Spanish user. I have an A1200T '040/25, 603+/200, BVision, CD-EOM, Pioneer SCSI 36x, 1Gb HD, 17" monitor and 64Mb RAM. And I think, what's happening with British Amiga users? They have the best country in the world to have an Amiga, and a lot of people only have an '030 and no CD-ROM drive! Here in Spain we have high-end Amigas compared with yours. The minimum specs are '030/50 and CD-ROM, but mostly we have '040s with graphics cards and, of course, we have hard drives and CD-ROMs, and there are a lot of '060s. If here in Spain we upgrade our machines to have great Amigas, why don't British users? Great Britain has a big portion of the Amiga market. If Spanish users mostly have powerful Amigas then British users should have too.





Ruben
via email

Hola Ruben. I don't necessarily think that all users in the UK only have an '030 and no CD, but then again I don't really believe that Spanish Amiga users all have a minimum of an '030 and CD. I'm sure that there are just as many low-end Amiga users in Spain as there are elsewhere in the world. But hey, what are all you Spaniards doing with that power? The last Spanish software house I can remember was Dinamic.

I couldn't agree more. We regularly get asked about how AF is doing, whether it's going to close and so on, and I have to say that we certainly don't have any plans to close the magazine, but its continued existence depends not only on you lot buying it, but also people advertising in it. Without advertisers we don't have a magazine. Without people buying kit from advertisers, we don't have any advertisers. QED.

YOU WERE LUCKY...

I had finally got up to reading the Letters page (May 99, *AF123*) and noticed the picture and letter from Chris Seward which was titled Barbarians and Sweatshirts.

Now, as Chris got some goodies for naming Wolf, how about giving me the unwanted apple and sock you mentioned for telling you the name of the lady on the left in the *Barbarian 2* pic? Maria Whittaker no less! A full apple would be better, Mr. Ben sir, than the half eaten one as it would serve to feed more of our little kiddies (me, cap in hand, tugging on my fringe and looking at my feet).

Neil Corbett
via email

Are you sure your last name isn't Cratchett instead of Corbett? Any fule know that that's Maria Whittaker – I danced with her at some nightclub in London once without knowing who she was, you know.

FOOL!

Last month's issue had an article on the next generation Amiga CPU produced by ACC. The April issue doesn't seem to follow through with any mention of this article. Was the article serious about the origin of the technology being from a crashed outer space vehicle? Am I the only reader surprised to read about it? Please let me know.

Arnold Valdez
via email

Umm, this was an April fool.

LIVING IN THE FUTURE

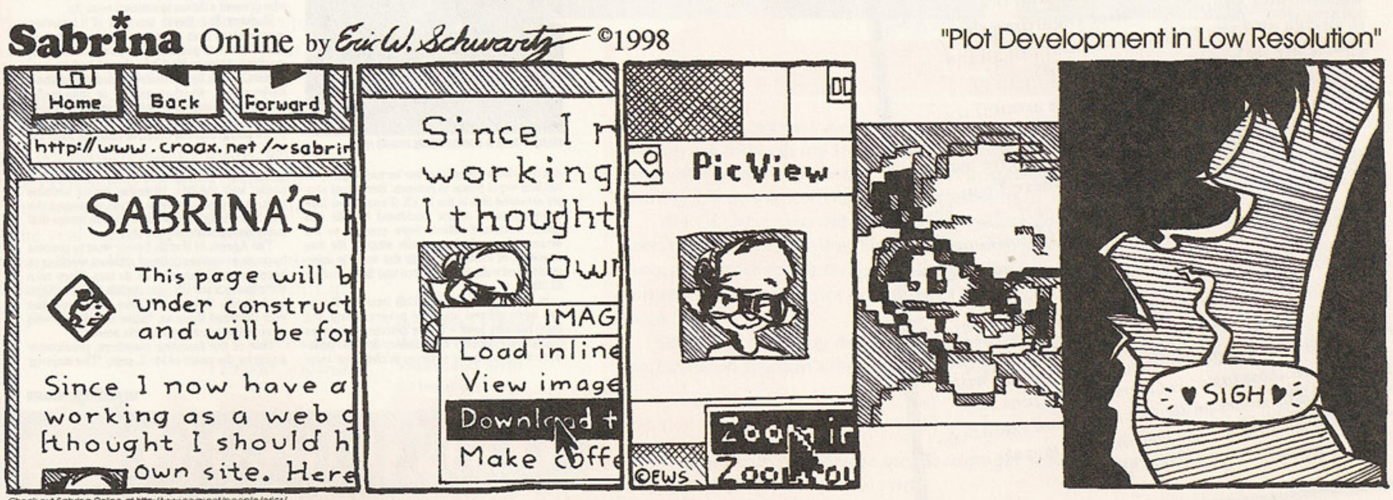
Can you help me? I'm desperate to get hold of a copy of *PageStream 4*, but I'm unable to find a supplier. I saw it advertised in your magazine some time ago, but nothing appears to have happened since by way of advertising or reviews. Is it still available?

I have an Amiga 4000/'030, not as popular as the A1200, but it would be nice if there was a little more support for this machine in the way of reviews of hardware, etc. However, keep up the good work as I thank goodness that there's a publishing medium still dedicated to the best and most friendly computer in the world.

S. F. Mallion
via email

PageStream 4 *doesn't exist yet, but v3.4*

Continued overleaf ➡



Check out Sabrina Online at http://www.coax.net/people/erics/

does. You should be able to get it from Larry Hickmott, the official UK importer. Email him at sales@em.powernet.co.uk or contact your favourite dealer.

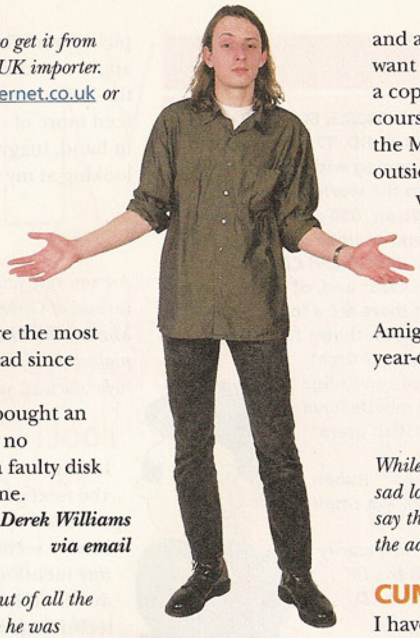
HELLO

I just wanted to say welcome to Richard, our new staff writer-type person. I have to say that his reviews in the last issue of *AF* (issue 123) were the most excellent reviews I have read since *Amiga Power*.

Oh, and by the way I bought an A1200 for £2 today. It had no accessories and allegedly a faulty disk drive but it seems fine to me.

Derek Williams
via email

I'm glad you like his work. Out of all the people that applied for the job he was certainly the most suitable for the post.



Staff writer 'can write' shocker!

ANIMATION STATION

I recently did an animation with *Deluxe Paint 5* and added sound and timing to it with Marco Vigelius's brilliant *AnimatED*. I then transferred it to video and sent it to *FreeScreen*, Meridian's early morning public access show, where all the videos on it are sent in by members of the public. They pay £80 for every submission they accept!

The trouble was, they've never heard of the Amiga, not even from the old days when A500s were popular. They seem to think that they can't do rendering, among other things. It took four animation submissions before they accepted something of mine; *LunArry*. I strongly advise all you Amigans who use Amigas to make short movies (not necessarily animations) to send them to *FreeScreen* at: **FreeScreen, PO Box 550, Southampton, SO14 OHQ.**

All films have to be between one and a half to three minutes long. If you want to know more, write in to them for a copy of their Free Video Info Pack. Of course, *FreeScreen* is only broadcast in the Meridian region, so if you're outside that, you won't actually see your vid on TV. Also, we can't advertise the Amiga because ITV won't allow any free advertising, but if more of us send things to them, we can teach them that the Amiga is cool and that I'm not just a 17-year-old sad loony.

Stu MacDonald
via email

While we can't say for sure that you aren't a sad loony, not knowing you very well, we can say that this is an excellent idea. You've got the address – go to it people!

CUNNING ADS

I have a cunning plan. Why don't clickBOOM and other game creators put full page game advertisements in your magazine? This would partially solve two of your main problems:

1 *Amiga Format* would be larger due to the mysterious advert numbers/magazine size ratio.

2 Piracy would be reduced, or at least slightly dented, if the adverts made the games look more professional and not so home made.

Another option is the discount vouchers you used to have. If people used the vouchers they'd save money and software could be registered to them automatically, instead of having to use the registration form.

David Thomsen
Wanganui, New Zealand

I quite agree.

PIRACY ISN'T KILLING THE AMIGA

I'm sorry, but it isn't piracy that's killing the Amiga, it's Gateway. They've owned the technology for two long years. Where are the new Amigas? Where is the new software? Where, indeed, is the

AMIHACK

I just thought you might like this scan as it shows what can be achieved with an Amiga. The Amiga is mentioned in the first paragraph on line eight.

Adam Stevens

Article taken from *The Big Issue* Magazine

HACKERS ARE CAUSING CHAOS IN CYBERSPACE. JANE CZYZSELSKA MEETS THE MODEM MAVERICKS GIVING SCOTLAND YARD A RUN FOR ITS MONEY

When Scotland Yard attempted to prosecute 23-year-old computer programmer, Matthew Bevan, and his 16-year-old accomplice, Richard Pryce, both from Cardiff, for unauthorised access to USAF secret information, the pair were vilified as public enemies by the media. Armed with nothing more than an Amiga 1200, Bevan hacked into sensitive USAF files and exposed the failure of their computer security system.

Embarrassed by his expertise, the Pentagon dubbed him a potential cyber terrorist, guilty of holding world peace to ransom. Bevan had simply accessed files in the FLEX (Force Level Execution) project, at the Lockheed Missile and Space Company, which were created to aid senior officers during missile attacks. He was acquitted of intent to modify the website information and walked free. Pryce was fined a paltry £1,200.

In the two weeks since his hearing, Bevan has been offered lucrative programming and legal hacking jobs – where private businesses hire private security consultancy firms to penetrate their computer systems to check for loopholes. PR guru Max Clifford has even been appointed as his press agent.

After exaggerating the British threat to US national security, USAF have secured extra government funds, no doubt to overhaul its vulnerable system. Yet Bevan believes he was set up. "In order to justify the demands they made to the US Senate for greater security in cyberspace, the USAF needed to prove that they were at risk from enemy attack." Despite his guilty plea, the USAF claim there are others



BREAKING ENTRY: 16-YEAR-OLD HACKER RICHARD PRYCE

I LIKE BREAKING INTO MACHINES. IT'S ONE MAN GOING AGAINST A TEAM OF HIGHLY TRAINED PROFESSIONALS

who present a threat to national security.

Hackers like Bevan are part of a growing international club of expert computer technicians with a passion for power over the machine. Human-kind has always had its protectors, driven by the desire to lord it over their environment, whether natural or man-made. Now user-friendly cyberspace – with its endless realms of information and appeal – has created a new playground in which to exercise their talents.

In the 1996 movie, *Hackers*, the cyber 'renegades' were portrayed as irresponsible young punks and vandals, latter-day street urchins with an atrocious taste in music, who used the web as their fighting territory. It's an image that many hackers are keen to change.

The Agents of Hostile Power want to present hackers as serious political activists working to keep the establishment on its toes. They take their name from DS John Austin, head of Scotland Yard's Computer Crime Unit, who last year declared them as, "naive individuals who were led by agents of a hostile power".

One of the founding members, predictably going by the name of Mr X, says: "The majority

THE BIG ISSUE IN THE NORTH

The attorney general of the United States Janet Reno once stated that her ideal computer would be an Amiga with Mac emulation (cf. *The Cuckoo's Egg* by Clifford Stoll), so it seems that Amigas are much-vaunted on both sides of the law enforcement fence.

AMIGA WORLD

I read Tony Horgan's April column on computer shops' ignorance regarding the Amiga and would like to say that not all the staff are as bad as he describes. I'm an IT contractor working at PC Worlds around the country and, when I get the chance, love to extol the virtues of the Amiga. I also give away extra freebies to Amiga owners where I can. Long live the Amiga!

Jason Gordon
via email

Glad to hear it, but I think, in the main, Tony was right in that column. You don't often hear, "Oh, you've got an Amiga? What a great machine, I wish I could sell those instead of these heaps of junk we make so little money on that we have to sell expensive extended warranties with them in order to make any kind of a profit."

PILE OF CRAP?

My brother recently purchased a PC with all the bits. When the salesman asked whether anybody in the family owned a computer, my brother replied that I owned an Amiga 1200, to which the salesman replied, well you can really show her up with this! This really sticks in my throat – to believe that the PC is state of the art is akin to those who believed the Titanic was unsinkable. Whatever happened to the Pentium 66 or Pentium 75 PCs? They're on sale second hand for less money than I'd spend on an accelerator card.

I'll always remember the pile upon pile of defunct 'state of the art' PCs, less than 10 years old, when the local college upgraded. Now when was the last time anyone saw a pile of defunct A500s or A600s? No, they're as useful now as when they were first made. As for PCs having all the gadgets, I'd like to extol the virtues of dedicated Amiga companies like Eyetech, who have supplied me with a lot of excellent equipment. It's companies like this which are keeping the Amiga alive and I feel that all Amiga users should support good companies as much as they support us – such a friendly, supportive rapport between supplier and user doesn't exist in the world of the Parasitical Commodity, and there will be many more piles of defunct PCs before my A1200 becomes defunct.

Rebecca Fryer
Sheffield

evidence of any real commitment to the Amiga at all? And by commitment I mean money. Gateway have set up a skeleton staff to oversee the milking of the Amiga community while they leave all development and risk-taking to third party companies, from whom they extract their comfortable licensing fees.

In fact, Gateway's only noticeable 'contribution' to Amiga development thus far has been the de facto torpedoing of the PPC bandwagon just when it was getting started. Gateway have kept the Amiga alive through promises and we all know that talk is cheap. First it was the multi-million dollar advertising budget, then it was the Amiga-on-a-PC development system. What happened to these?

It seems that with Gateway, great new technology is always just around the corner. Now it's Q4, 1999. Meanwhile, those licensing fees just keep rolling in. I notice that your magazine doesn't even bother putting major Gateway announcements on its front cover any more. Why bother? No-one believes them any more, not even you. Personally, I'll start believing Gateway when I see them spending some real bucks on the Amiga. Meanwhile, I'll be doing just as they are doing and keeping my hands firmly in my pockets.

Steven Hutley
Victoria, Australia

GATEWAY2000
"You've got a friend in the business."®

A friend in the business? Steven Hutley certainly isn't impressed with Gateway so far.

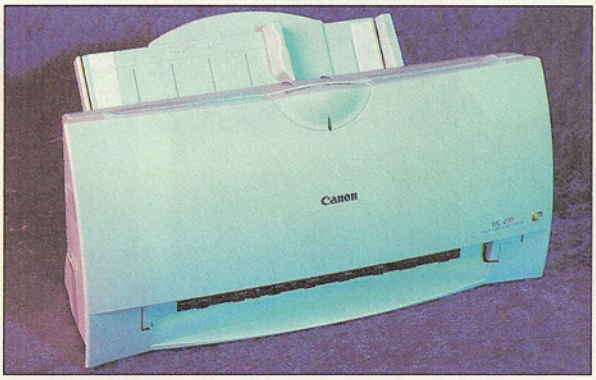
We haven't been putting "major Gateway announcements" on the cover because there haven't really been any. The PPC fiasco is an example of very poor management of the Classic Amiga situation by a company that just didn't understand the market it was entering – you might imagine Gateway's reaction if, out of the blue, someone mentioned that it was a good idea for PCs to move to the PPC overnight. As far as the future goes, it's always hard to have foresight, but you aren't the only one keeping his hands in his pockets. However, that's surely damaging the Amiga as it currently stands more than Gateway have done over the last two years, but no longer – see the feature starting on page 14.

PRINTER PROBLEMS?

Firstly I'd like to say a great big thank you to the *AF* person who helped me on the phone regarding *IDEFix 97* and the Typhoon Mark 2 accelerator. The advice and information they gave me was invaluable. Once again, thanks.

Secondly, I'd like to warn other Amiga users about a problem with Canon printers. The BJC-250 is not supplied with any form of Amiga printer driver. There's nothing to download on the Canon website for it either (try http://www.canon.co.uk or http://www.canon.com to see). They haven't yet replied to an email asking why. Fortunately, Aminet have come to the rescue and anyone else in trouble can get the file from me by sending a floppy and an SAE to PO Box 17, Treorchy, CF42 6YL, UK. I'll copy the *LhA* archive, *LhA* and any necessary libraries to their floppy and send it back ASAP. It's helped me a treat.

Chris Maggs
Treorchy



Anyone getting a new printer and not getting TurboPrint *to accompany it is only going to get half of the potential of their new printer fulfilled. The* CanonStudio *disk gives very good output, but it isn't as user-friendly as it might be.*

AMIYAROZE?

I have used an Amiga for seven years, but I'm also a member of Sony's Net Yaroze. I say this because although not officially endorsed by Sony, on the members' website you can now download tools that allow you to develop software via an Amiga, not a PC. Please inform your readers of this as there must be other members out there who can make use of these utilities.

Also, a big thank you for your review of *Napalm*. I'm currently in the process of buying a new Amiga and look forward to the prospect of games that will make full use of my machine. As you pointed out, this is the way forward for Amiga software – games that reward people who invest in their machines.

Keep up the superb work, and thanks to Colin for recommending *Dobermann* – I'm going to see it soon and it looks great.

Tim Kinnear
via email

The Net Yaroze development system is based around Gnu C, which is available on the Amiga in various forms, so theoretically there's no reason why you couldn't use a Yaroze on an Amiga. We were going to do a feature on this very topic, but since Sony have now stopped the Yaroze project because of PlayStation 2, there's not much point.



***TurboPrint* is an essential buy if you really want to get the most out of your new printer.**

NO TIME

The long-awaited new Amigas are still that – long-awaited new Amigas. While wandering through my local PC World recently, I spotted an unattended book with internal information for their staff on upcoming promotions. I flicked through it and the following item caught my attention.

The "Webbit Internet Computer" Product Code 746657. Surf the net without the need of a PC or a monitor. Simply plugs into your TV. Includes *Lotus Ami Pro* word processing package, *Internet Explorer* software, plus *Lotus Organiser* and Commodore 64 emulator and suite of games. All for only £299, to be introduced in week 51.

Whatever Gateway does with the new Amiga, they'll have to do it soon as it seems the opposition aren't going to wait.

Bill Power
Portadown

It's certainly true that Amiga Inc. need to get their fingers out, but it looks like that's just what they're doing now.

The Gallery

ON THIS MONTH'S CD

AFCD41:-ReaderStuff-/-Gallery-

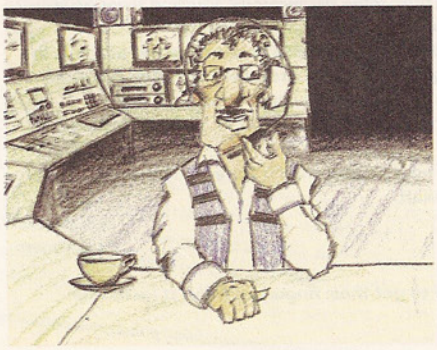
Ben Vost judges the best selection of this month's animation and art.

Reader of the Month £50 WINNER!







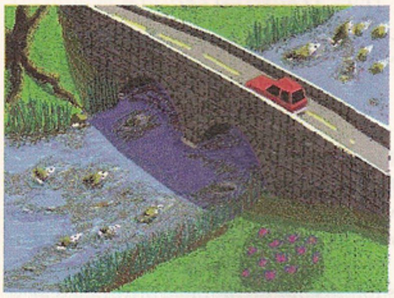




Animations by Dale Hemenway

Dale has come up with some superb looking hand-drawn animations for this month's Gallery and he definitely deserves the £50 prize. Watch them on the CD and look out for more to come, but beware – these animations are very large.





Bridge, Planet-Sun by Keith Taylor
Two images that show Keith's contrasting subject matter. His animations about a space-caff are pretty good too.



A.24 by Ragnar Fyri
Seems like a simple idea – take an A and repeat it four times around a square, but doesn't that sound, and look, like a good idea for an Amiga case design?



Jesus by Alex Watson
I really liked the combination of rendering and photography in this picture, although the near silhouetting of the statue means that the highlight on the bomb's nose is a bit out of place.



Jedi Jawa by James Hall
I'm kind of surprised that we haven't had any more *Star Wars*-influenced pictures in the Gallery of late considering the hype surrounding the new movie, but I like the idea of one of these diminutive aliens wielding a light sabre.





Boing2 and Doom by C.A. Shaw
Mr. Shaw has done some cracking images and I was hard-pushed to single these two out. Have a look at the rest of his work on the CD.





Daff's Revenge by Kevin Twynan
Kevin's amusing *AnimatED* anim features a bee which... well, find out for yourself on our CD.

CONTRIBUTIONS

If you'd like to enter your work (and it should be only your work!) for the Gallery section on the CD and the pages in *Amiga Format*, read the Reader Submissions advice on the CD (you can find it in various places) or simply make use of the form from the CD pages of this magazine (page 86).

Serious disk





AMIGA FORMAT

Backing up your data is of paramount importance but most of you won't realise this until it's too late. **Errol Madoo** presents a great program to make the job a lot easier…

ABackup

The sheer importance of system backups smacked me in the face last week. The 1.2Gb boot drive in my A3000 decided to throw a wobbly and spewed out countless read/write error requestors. Without a functioning boot drive my machine simply refused to boot and I was left staring at the "insert floppy" Workbench animation. You know, the one that the Escom shops seemed to like so much!

This could have been disastrous if I hadn't been properly prepared for this eventuality. With no backup and only a week to deadline it could easily have meant no floppy coverdisks, no subscriber disk and, above all, no *AFCD*. Thankfully I had everything backed up on DAT but I was still left with a lot of downtime and the hassle of buying a new drive, fitting it and restoring all the data. I guess that I could have saved some money by reformatting the drive, mapping out the errors and restoring the data, but with so much at stake I prefer not to trust drives with errors.

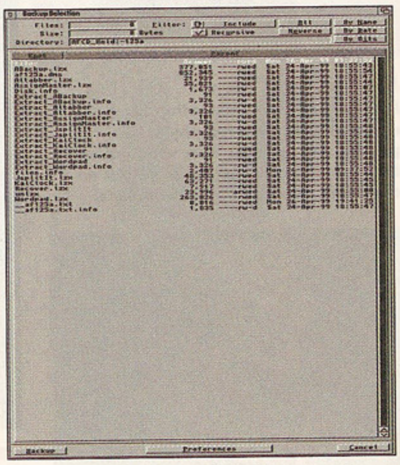
> "What data would you lose if your hard drive decided to freak out the next time you booted your Amiga?"

In steps the excellent *ABackup*, a backup program that could save you lots of grief. Think about it – what data would you lose if your hard drive decided to freak out the next time you booted your Amiga? Quite a lot, eh? Maybe it's time for you to think about backing some of your data up. At the very least, you really should consider making a backup of your important data.

ABackup is quite comprehensive and supports most removable drives such as SyQuest, Zip and Jaz drives so you shouldn't really have an excuse not to use it. Perhaps if you aren't lucky enough to own such a device you could have a word with a mate who has one, buy a cartridge or disk for it and hook it up to your machine to perform the operation. At least that way you would be left with some sort of backup of your important data files in case of emergency.

ABackup also supports backups to floppy, although I personally wouldn't recommend backing up anything over 100Mb to floppy disks.

Another great feature, and one that's often overlooked, is that you can use *ABackup* to easily transfer large files and/or directories between Amigas. A few readers send their reader contributions to *Amiga Format* on sets of floppies containing *ABackup* archives but there are lots of you that still send in heaps of individual files spread across different floppies – maybe it's time you started using *ABackup*…

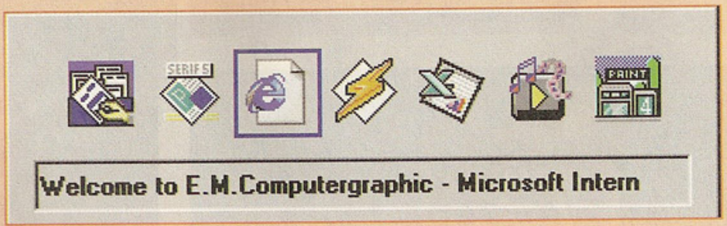


***ABackup* could save you lots of grief and reduce your downtime.**

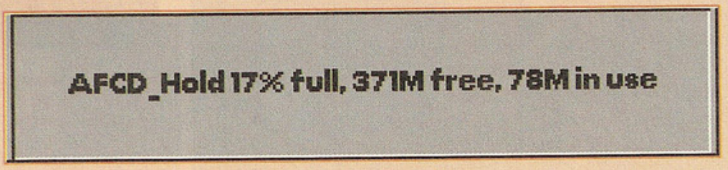
ALTABBER

Although many of you guys will probably hate PCs, it must be said that Windows does have some standard features that are useful. One of these features is the ALT-TAB keystoke, which opens up a little window containing icons representing all the currently running applications. When this window is open you simply press the TAB key repeatedly (while keeping the ALT key pressed) to select which program you want to use, let go and the selected program then pops up.

Although *Altabber* doesn't display the pretty icons of the Windows version, it actually does a better job. Not only can you select which application screen you want popped to the front, you can also select which window to pop to the front. Installation is simply a matter of dragging its icon to a location on your hard drive, which will probably be your WBStartup drawer. *Altabber* can also be configured – for example, you can change the qualifier keys. This is done via the icon's ToolType.



This is what you get when you press the ALT and TAB keys on the PC…



…and this is what happens with *Altabber* on the Amiga.

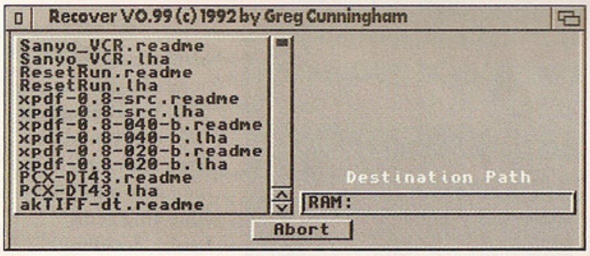
Recover

Given the power of the Amiga operating system, especially when coupled with a directory utility such as *Directory Opus*, it's all too easy to delete files accidentally. Sure, if you're very, very careful this shouldn't happen, but imagine the scene… your dinner is on the table, a mate has just arrived at the front door, your favourite TV program is just about to start, your kid brother is playing happily with your Amiga's power lead cord wrapped round his neck and the phone is ringing. With all this going on, you have just selected a bunch of files and hit delete by mistake. Now what?

If the files you've just deleted aren't really important then it isn't really a problem, but what happens if you've just deleted some crucial system files? Say you had the complete C: directory selected when you hit delete. As you watch the files disappear it suddenly dawns on you that you can't reboot your hard drive because without the C: directory your Amiga won't play ball.

You could dig out your original system disks and copy the original files from the C: directory on the floppies to your hard drive, but what about all the files and patches that have been installed by other programs? You're in a bit of a mess, aren't you mate? Well, you are if you don't have a set of backup disks or if you don't have *Recover* installed on your system.

Recover is a file recovery program and, once installed on your hard drive, accidentaly deleting files no longer becomes a problem (unless, of course you're silly enough to delete it). Just double click on its icon and *Recover* pops into action and opens its window with a list of your drives on the left. You simply select the drive that you've just deleted the file/files from and *Recover* automatically scans the drive for all recoverable files. When the scan is completed, the drive list is replaced with a list of all recoverable files and you just need to select the files you want to recover and select the destination – it's really that easy. *Recover* is exceptionally compact, taking up a minuscule 9K of hard drive space, and installation is about as easy as it gets – just drag Recover's icon to wherever you want and you're ready to go.



Recover's simple interface can save you hours of grief in a crisis.

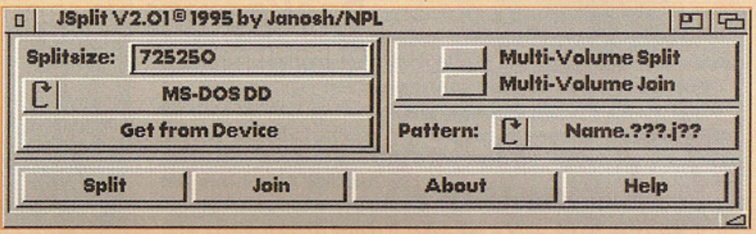
JSPLITIT

Have you ever needed to transfer large files to a PC? If you have an Amiga with a standard floppy drive, you can use *CrossDOS* to format a 720K PC disk and copy your file to that. If you're lucky enough to own a high density floppy drive, you can then format the disk as a standard 1,440K PC disk, giving you double the transfer capacity. But what happens if the file you want to transfer is larger than 1.4Mb? Well, without a serial cable and some communications software, an archiving program or some type of removable media device on both machines, you'll probably be a bit stuck.

***JSplit* is a little utility that comes in two parts. Firstly there's the *JSplit* program for the Amiga, which has a simple, easy to follow interface and is used to select the file you want to transfer to the PC. It then splits it into floppy-sized chunks, ready for copying to your PC-formatted floppies. *JSplit* is also used should you wish to join files that were split on the PC.**

The second part is *SplitIt*, which is the MS-DOS executable and should be copied to and run on the PC. It's used for splitting and joining the files on the PC.

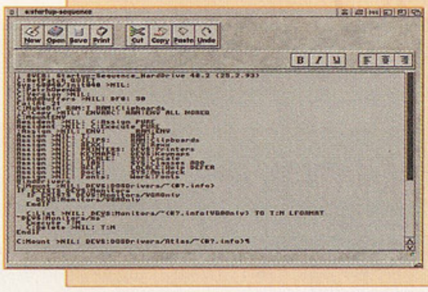
Installation of both the Amiga and PC versions of the program is simply a matter of running the desired part. On the Amiga, *JSplit* will run on any Amiga with Workbench 2 or higher. On the PC *SplitIt* needs to be run from DOS.



JSplit allows the easy transfer of files between an Amiga and a PC.

WORDPAD

Programs like *Final Writer* and *Wordworth* are great applications but they're a little too bulky and powerful if you just need to edit a simple text file like your Amiga's startup-sequence. *Wordpad* is a great little *MUI*-based text editor that's quick, simple to use and offers enough features to allow the quick editing and printing of text files. Being a *MUI* application, *Wordpad* obviously requires that *MUI v3.8* is installed on your system. Its 30K installation is via the standard installer.



If you're looking for a quick and simple text editor, you need to take a look at *Wordpad*.

ASSIGNMASTER

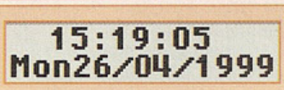
***AssignMaster* is a program that handles assigns from Workbench using an interface, so the next time you get the "Please insert xxx" you'll be able to assign the volume/device on the fly. *AssignMaster* retains all the features of the standard CLI assign command and includes several more, including the the ability to install all your normal assigns at startup. This enables faster booting as your Amiga doesn't need to read all the individual entries in your user-startup file.**

Using *AssignMaster* is quite easy. All assigns, either standard or new, are added in the Edit window and *AssignMaster* also features full drag and drop support so you can add an assign to a particular directory by simply dropping its icon into the Edit window.

***AssignMaster* requires Workbench 3+ and installation is via the standard installer, although if you want *AssignMaster* to be run at startup you'll need to do some of the installation manually.**

KAICLOCK

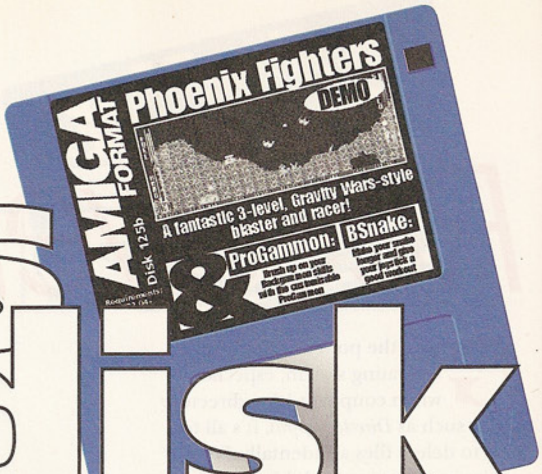
***KaiClock* is quite simply a digital clock for the Amiga which requires Workbench 2 or higher. Like most clock programs on the Amiga it can be placed on your Workbench screen to display the time, but this is where most of the similarities between this and other clock programs end.**



You can use *KaiClock* to install an LCD display on your Workbench.

***KaiClock* has a whole host of features that set it apart from the rest. For a start it can display its clock with up to 256 colours on an AGA Amiga, it can be placed anywhere on your Workbench screen, it can display the date and the weekday and it has a great alarm function that can sound every hour and also display a message of your choice.**

***KaiClock* has now been released as Freeware and comes complete with a public keyfile. Should you wish to obtain your own personal keyfile, just send the author an email and he'll send one to you for free.**



Games disk

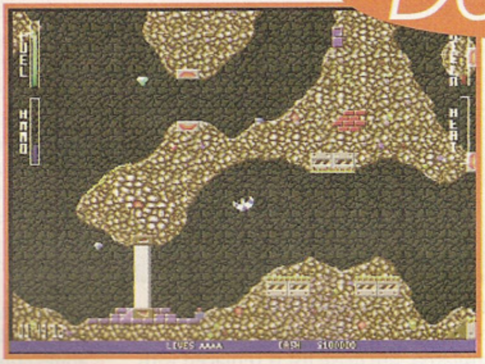
AMIGA FORMAT



Errol Madoo brings you a playable demo of ***Phoenix Fighters***, a great game for fans of ***Backgammon***, and ***BSnake***, a game that's guaranteed to give your joystick a good workout.

Phoenix Fighters Demo

Phoenix Fighters is a game very similar in principle to the excellent *Gravity Wars*. The game is split into several sections, each having its own objectives. At the start of the "Mission" section you're given details of your mission, which must be followed in order to complete it. At the start of mission one you're instructed to land on the platform located beneath your starting base. You then guide your ship round the level, searching for the platform while collecting gems (cash), avoiding force fields, collecting extra lives and fuel while also shooting at stationary targets. The cash (gems) you've collected throughout the game allows you to purchase and/or sell weapons. They also give you the chance to repair your ship.



> "You then guide your ship round the level, collecting gems, avoiding force fields, collecting extra lives, etc..."

The "Gate Race" section allows you to practice your control against the clock. In this section you must fly round the course, guiding your ship between the predefined gate markers. In the "Gem Race" section you also race against the clock and must collect or shoot gems on your way round the course. As you collect the gems, the next gem you need to collect appears, effectively marking out the course for you. If you opt to play a two player game, there's also an additional "Dogfight" section where the two players can fight head to head.



There are plenty of choices available, even in the demo version.

This is a limited demo version of *Phoenix Fighters* and should be available

BSNAKE

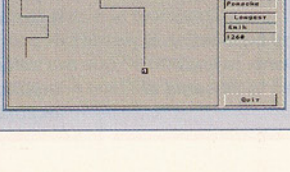
BSnake is a simple but deceptively addictive game where your only goal is to make your snake grow as long as you can by eating as much food as possible while also trying your best to avoid the walls encompassing your play area.

You can control your snake by using either the four cursor keys on your keyboard or, if you prefer, you can give your joystick a thrashing. For your first game I'd suggest that you start off by playing at the slowest speed (Trabant) which can be selected from the "project" window. When you click on the "New Game" button you'll see your little snake spring to life and slither towards one of the walls. Move it up or down to avoid the side wall and it'll change direction. When your snake gets near to the next wall, avoid that one as well. That's the easy bit!

Now comes the harder bit. Every now and again a little number will pop up in the play area. This number has two purposes. Firstly, it serves as a great distraction for your eyes and secondly, it represents food and your snake needs to eat it. This is where things get a little tricky as while your eyes have just been distracted, your snake has happily carried on in its voyage of destruction, and if it hasn't already hit a wall then it's likely to be about a nanosecond from impending doom.

If you find that the "Trabant" speed is too slow for you there are three other options: "Käfer" is a little faster, "Audi" is faster still and "Porsche" is the fastest and really only recommended for kamikaze players. I must admit that I'm a little unsure exactly why Holger, the game's author, has decided to use car names as the speed setting indicators – I would have thought that in a game called *BSnake* she would have used names like Adder, Python and Cobra. Nevertheless, this is a great little game that will give either your cursor keys or your joystick a good workout.

BSnake will run on any Amiga with at least 1Mb of memory and using Workbench 2 or above. The only other real requirement is that you need to have the supplied peignot font in your fonts: directory. If you don't already have this font, installing it is simply a matter of copying the peignot font directory and the peignot.font file into your sys:fonts directory manually.



My nine-year-old son, Erik, going for the kill.

ProGammon

There are numerous versions of Backgammon on the Amiga and some are great, others are pretty good and some are pretty dire. *ProGammon* falls squarely into the great slot though, and if you're a fan of Backgammon you should find that this version contains all the options you could wish for, and it also plays a pretty challenging game.

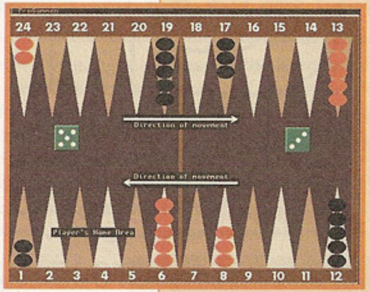
ProGammon's options menu will reveal that it's quite comprehensive and gives you the ability to undo your last move, change and save the screen colours and adjust the speed of the gameplay. *ProGammon* also includes a very detailed statistics page, which is also invoked from the options menu and displays a table summary of what you've rolled with the dice, your average roll total, statistics on wins, gammons and backgammons. Clicking on the left side of the statistics window will display the stats for the current series of games and clicking on the right of the window will reveal the overall stats for all of the games played.

ProGammon also features an auto mode where you set the Amiga to play against itself. For novice players this is a great way to "watch and learn" the gameplay of Backgammon

ProGammon will work on any Amiga with Workbench 2 or above and includes a number of preferences, such as which font the program uses, the direction of gameplay, the player's name and a trainer mode, that are all invoked from the program icon's ToolTypes.

BACKGAMMON RULES

For those of you who've never played *Backgammon*, here's a quick guide to what it's all about and how to play it, in order to get you started on *ProGammon*.

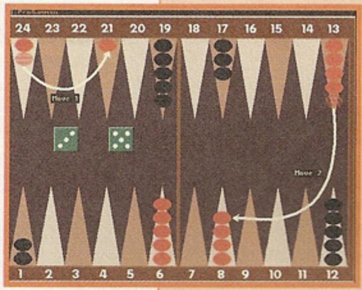


This is the *ProGammon* game board.

There are 24 positions on the board and each player begins with 15 pieces. You play with the red pieces and the Amiga plays against you with the black pieces. In the diagram you have two pieces on position 24, three pieces on position 8 and five pieces each on positions 6 and 13. The 3 and the 5 in the centre of the board obviously represent the dice.

Each player takes turns rolling the dice and moving their pieces an amount equal to whatever was rolled with the dice. The object of the game is to move your pieces in a clockwise direction into your home area. When all 15 pieces are home you can remove them from the board, depending on exactly what you roll. The first player to remove all of their pieces from the board wins the game.

The game starts with each player rolling one die to determine which player gets to go first. For example, if the Amiga rolled a three and you rolled a five then you would start by using this combination for your first move. Here's one possibility: With the three, I moved one piece from position 24 to position 21. For the second move, the five, I moved a piece from position 13 to position 8. After the opening move, each player alternates rolling the dice.



Here are the first two example moves.

Either player can move to any position as long as it isn't blocked by two or more of the opposing player's pieces. In the above example I wouldn't have been allowed to use the five to move a piece from position 24 to position 19 because the Amiga has position 19 blocked.

It's possible to move to a position that has only one Amiga (black) piece on it. When this happens your piece will take possession of that point and the Amiga piece will be knocked off onto the centre bar. Any piece on the bar has to enter the board in the opposing player's home area. You must get back on the board on a point that's not blocked before any further moves are allowed. If you can't make a move, just click once on the dice to give up your turn and resume play.

When all of your pieces are in your home section you can start removing them from the board. This is called bearing off. If, for example, you rolled a six and a two, you could remove one piece from position 6 and another one from position 2. If you rolled a six but didn't have any pieces on position 6 to remove then you're allowed to take one piece off the next highest position.

It's also legal to move pieces within your home area rather than bearing them off. It might be an advantage to do this if the Amiga still has some pieces in your home area and is trying to knock you off onto the bar.

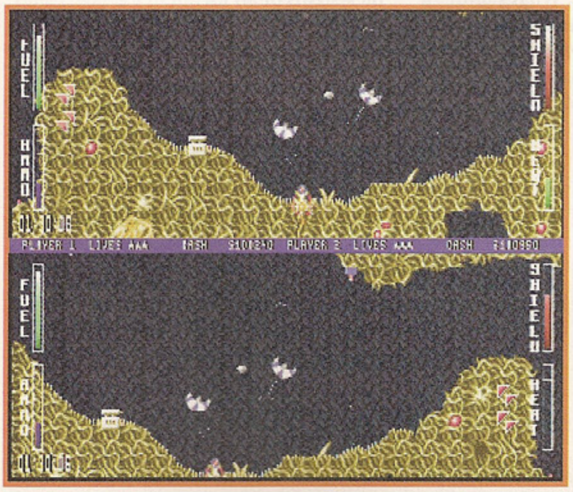
The only other rule is that both players must use as much of what they rolled as possible. If you rolled a five and a three and it's possible to use both the five and the three then you must make both moves. If you can only use the five or the three but not both then you're required to use the higher amount.

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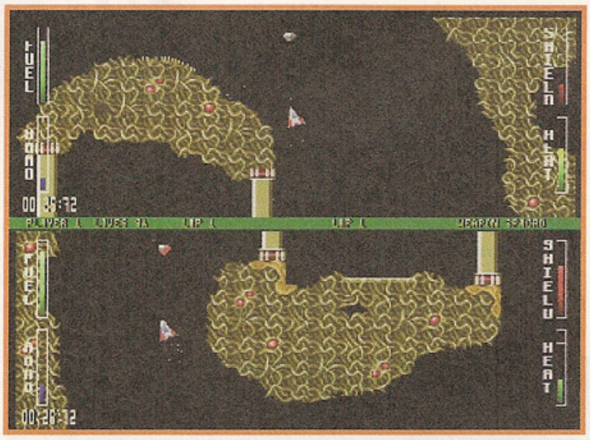
from Alive Mediasoft by the time you read this. It should work on any Amiga but an '020 processor or better is required for the extra features.

In this demo there are three one player missions, one two player mission, one Gate race, one Gem race and one Dogfight level with a timeout. Furthermore, only five of the twenty ships are available.

The final version will include 80 one player missions, 50 two player missions, 20 Gate races, 20 Gem races and 40 Dogfight levels. AF



Phoenix Fighters is really at its best when it's played with a friend.



The pro player Gem Race sorts the men from the boys.

DISK NOT WORKING?

We take every care to test the coverdisk software, but Future Publishing cannot accept any responsibility for any damage occurring during its use. If your disk is faulty, send it back, with 2x26p stamps and an SAE to:

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If there is a manufacturing error then the stamps will be returned with a replacement disk.

Cover disc

AMIGA FORMAT

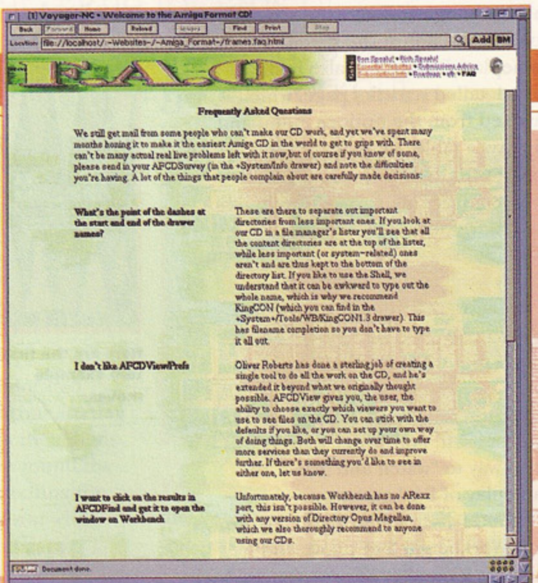




Another 650Mb of software is taped to the front of this magazine. Richard Drummond reveals some of the highlights.

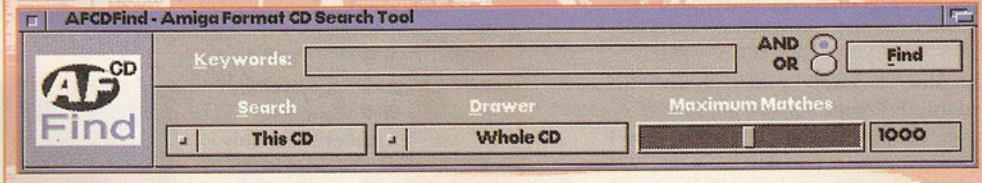
Let's face it, HTML is a hideous language and creating web pages is a chore. Well, not any more. *Amiga Format* provides you with all the tools necessary to tackle the tedium and make designing your home pages a delight. We give you HTML editors, image converters, a syntax checker, official guides to the language itself and much more.

WHAT'S NEW



Things never stand still here at *Amiga Format*. We're constantly looking for ways to improve the quality and ease-of-use of our coverdiscs. This issue's CD is no different. We've now included a FAQ section to the HTML front-end of the CD. At the moment it contains replies to some questions we repeatedly get asked about the CD, but we're looking to extend this to cover more general Amiga issues. If you have a subject that you'd like to see a FAQ on, why not drop us a line at the usual address?

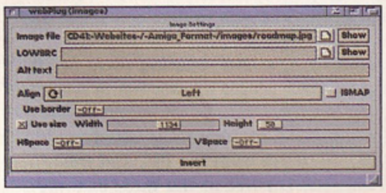
***AFCDView*, the tool we supply to provide a consistent and configurable method of browsing all the multimedia information on our CDs, has been updated for this issue. It will now transparently check its own version number to ensure you always have the latest version installed on your hard drive. *AFCDFind* has also been updated for this CD and now has online help. Locating the files you desire has never been so easy. The online help can be activated from the program's menu bar, or more specific help can be triggered by pressing the Help key when the mouse pointer is over a particular gadget.**



***AFCDFind* now has online help so it's even easier to use.**

WEBPLUG 1.4

-In_the_Mag-/Reader_Requests/Web/webplug_1.4

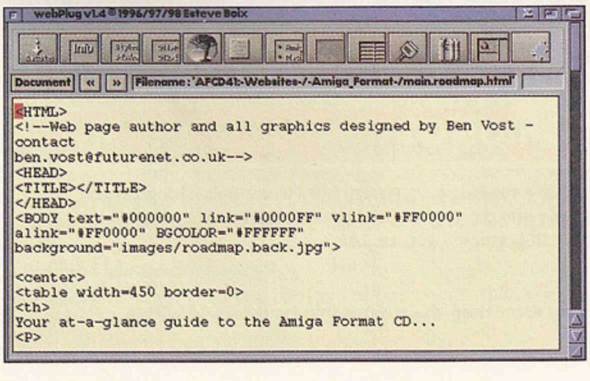


***webPlug* provides pop-up windows to insert features like images into your pages.**

webPlug is a text editor designed specifically for the creation of HTML documents. Not only does it offer all the usual features of a text editor, such as cut and paste, search and replace, and undo facilities, it allows you to insert HTML tags with a friendly *MUI* interface. For example, you can pop up a window, select a picture file and *webPlug* will find its dimensions and insert the relevant code into your page.

Even trickier features like tables, forms and lists are only a few mouse-clicks away. *webPlug* supports the easy application of font styles, colours, background images, etc. What's more, it can interface with any Amiga browser to check the fruits of your labours.

***webPlug* can alleviate the misery of creating your own HTML pages.**



CHECKLINK 1.40

-In_the_Mag-/Reader_Requests/Web/CheckLink

As any website maintainer will tell you, verifying the validity of all of the scores of links in your web pages can be a real drag. Maybe the spelling or the case was wrong, or maybe the target no longer exists. *CheckLink* can automate this process for you. It can test all of the hypertext links in your documents and report on its success.

This tool is especially useful for Amiga owners since the Amiga's filesystem isn't case sensitive. Many a link was brought low by carelessly uploading to the typically *UNIX*-based filesystems of an ISP.

WEBFX 2.20

-In_the_Mag-/Reader_Requests/Web/webfx

WebFX has a handy *MUI* interface for *ImageFX* and *WhirlGif* to create stunning graphics effects for your home pages. With the aid of this program you can quickly and easily create animations, cross-fades, shadows, etc, and liven up the visual appeal of your documents.

WEBUP

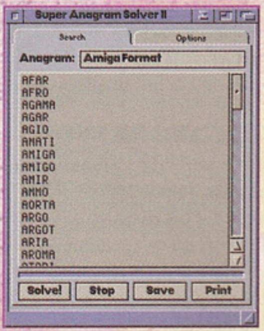
-In_the_Mag-/Reader_Requests/Web/WEBup

This is a tool for uploading your web pages to your ISP. You'll typically create and maintain your HTML pages offline and store them on a local hard disk. The

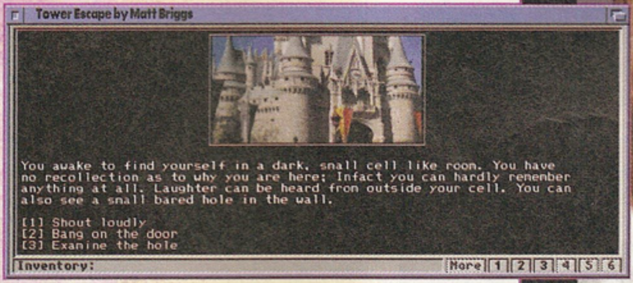
Your Stuff!

Reader of the Month £50 Winner!

After a few months in the doldrums, we've had a huge increase in the number of reader submissions for this issue. This is no reason to become complacent, however – keep sending your work in! The winner of this month's best entry goes to Matt Brigs. He actually sent in four entries, but my favourite is *EAC*, an easy-to-use system for creating basic text adventures. *EAC* is designed to take the drudgery out of playing and writing such adventures. Instead of typing in commands such as 'go north' or 'kill pirate with sword', interaction with the game is purely via a menu interface. It's a simple task to author your own adventures with *EAC* since it uses an uncomplicated scripting language. The resulting games are more Fighting Fantasy than Infocom, but they're still great fun. Matt's other contributions include *Anagram2*, a *MUI*-based tool for solving anagrams, funnily enough; *Magic Bar*, yet another, although fairly swish, tool-launching commodity; and *BlocksXL*, a *Tetris*-type of game. Good work Matt – enjoy the £50!







Above: An *EAC* adventure in progress. Right: *MagicBar* is an unobtrusive tool launcher.

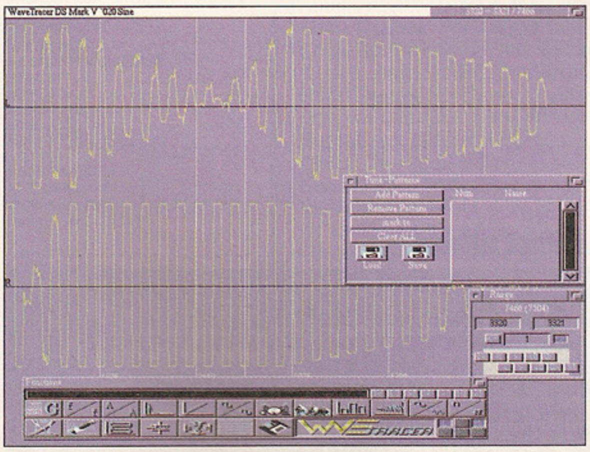
problem then arises of ensuring that the pages stored in your web space are always up to date. *WEBup* can take care of this task for you effortlessly. It compares the local pages with ones stored on your server and only uploads the ones that have been modified. It thus saves you time and reduces your phone bill.

WAVETRACER DS MARK V

-Seriously_Amiga-/Sound/WaveTracer

WaveTracer is a demo of Virtual World Productions' new Shareware sound and sample editing package. It can do all the usual tricks like file conversion and it supports a huge set of different formats, including AIFC, AIFF, CDXL, CineData, FutureSound, MAUD, MPEG, RIFF-WAVE and more. The package is a capable effects processor too, with features such as echo, surround sound (with Dolby Surround or AC-3 encoding), anti-aliasing, integration, differentiation, and amplification. It supports up to six channels of 16-bit playback via any *AHI*-supported soundcard or the standard Amiga audio output. An ARexx port is also provided.

WaveTracer is packed with audio processing features.



The most novel aspect of *WaveTracer* is its tools for processing animation files. It allows you to dub and mix sound effects onto an IFF-Anim and save out the result as an IFF-SoundAnim.

A tool called *CineTracer* is supplied with the *WaveTacer* which can separate out position and movement information from animation files created by various raytracing packages, then save it as a *CineData* file for processing by *WaveTracer*.

At the moment, *CineTracer* supports *CineData*, *Imagine* and *AVB* formats. Also provided is an animation replayer, *AnimFX*, which can be used to view IFF formats such as ANIM5, ANIM7, ANIM8 (with or without sound) and CDXL files. This taster of *WaveTracer* is impressive indeed – it's just a shame that so little documentation is supplied.

PERSONAL STEREO

-Seriously_Amiga-/Sound/AmigaAmp
-Seriously_Amiga-/Sound/amplifier

With the increase in processor power of the average Amiga, more and more users are storing their musical offerings in MPEG format, which allows high compression and CD-quality playback.

If you have a large quantity of such

Continued overleaf ➡

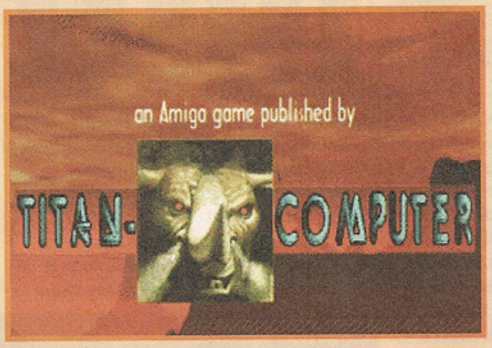


***AmigaAMP* can easily be extended with its plug-in system. This is the spectrum analyser in action.**

EVIL'S DOOM DEMO

-ScreenPlay-/-Commercial-/-EvilsD_Movie
-ScreenPlay-/-Commercial-/-EvilsDoom_Demo

Evil's Doom is a forthcoming fantasy roleplaying game from Titan Computer. It features superb graphics, full motion video sequences and speech sequences. We've provided you with a taster in the shape of a 40Mb movie animation from the game, plus a playable demo. If this has whetted your appetite, more information is available from Titan's website at: http://www.titancomputer.de







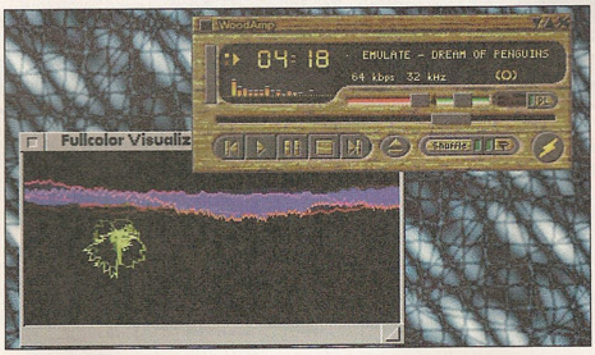


Evil's Doom promises to be a visually stunning game.

tracks, a GUI player is a must for maximum enjoyment. Two of the latest of these are on this CD for you to try: *AMPlifier* and *AmigaAMP*.

Both provide you with controls like a standard CD player for playing, skipping, searching and programming tracks. In fact, both take this metaphor further and provide the user with the ability to use configurable 'skins' to alter the appearance of the GUI. You can make both look like a classic hi-fi separate CD player, a sporty portable CD player or even have an old-fashioned wooden look.

AMPlifier is by Kato Development, the company responsible for the Melody Zorro II and A1200 soundcards. It optionally supports both of these sound cards for the hardware decoding of MPEGs.



AMPlifier **allows you to customise its appearance with 'skins'. This one is the WoodAmp.**

DISCLAIMER

This *AFCD* has been thoroughly scanned and tested at all stages of production. We recommend that you always run a virus checker on ANY software before running it. Future Publishing Limited cannot accept any responsibility for disruption, damage and/or loss to your data or your computer system which may occur while using this disc, the programs or the data on it. Ensure that you have up-to-date backups of data contained on your hard drives before running any new software. If you do not accept these conditions, do not use this disc.

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Your *AFCD* should only need replacing if the CD itself cannot be read. If you're experiencing problems with an individual application, phone our technical support line.

This is open between the hours of 2pm and 5pm every Tuesday.

Tel: 01225 442244 Fax: 01225 732341
Email: amformat@futurenet.co.uk
(Please remember to put "Coverdisc" in the subject line.)

Please note that the helpline staff provide assistance with technical problems directly related to the CD and cannot provide training on the software or hardware in general.

We want your work!

You can either send it to us on floppies, Zip disks or CDs (we do take other media formats too). If you are going to send us a multiple floppy backup of your work, please use the version of *ABackup* we supply on the CD in the +System+/Tools/Disk_Tools drawer. We'll return any Zips you send us, so don't worry about getting your disks back.

If you have any further queries about how to send your software in then consult the Submissions Advice on the CD (in Ben_Speaks!, or in the ReaderStuff or +System+/Info drawers).

Your signature: ....

Files you send in this month will probably appear on *AFCD43 – Amiga Format* issue 127, September.

Please tell us:

Your name: ....

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ProTel Teletext Receiver

System requirements: Kickstart 2.04 or higher, 2Mb RAM and hard drive or two floppy drives.

The unit plugs into the parallel port and connects to an ariel like a TV. Includes all software for viewing and grabbing Teletext information Supports FastText. Comes complete with PSU.

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New Amiga Gear

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Many Amiga magazines (1991 onwards). £2 disk, £3 CD. ☎ Ben 07931 332528 or email bencowell@miggy1200.freeserve.co.uk

A1200 '040/40MHz, 34Mb RAM, 1.2Gb hard drive, Squirrel, 24x CD-ROM, ZIP drive, Microvitec 1438 monitor. Also A500, Workbench 2.1, 5Mb RAM, 170Mb GVP hard disk. Some software. HP Deskjet 520 and Citizen Swift 24-colour Printers. £500 for everything, will split. Ben Cowell bencowell@miggy1200.freeserve.co.uk or ☎ 07931 332528 anytime.

72-pin SIMM sale. 8Mb single-sided 60ns 72-pin SIMM, £10.00, 16Mb double-sided 60ns 72-pin SIMM, £20.00. Email c_klausen@hotmail.com.

BlizzardIV 1230 accelerator running at 50MHz, 8Mb SIMM fitted, socket available for SCSI adaptor. Still has original box and instructions, £50. ☎ Anthony 01925 480751 or email shezzor@asp.u-net.com.

RAM expansion (8Mb) for A1200 trapdoor. Includes FPU slot and batter-backed clock. £20 plus postage. Will swap for 16Mb SIMM. ☎ Luke 01403 235508.

Trade: MicroniK A1200 tower kit for your VIDI ProGrab 24RT and PCMCIA adaptor, US only. Email abodo@netnitco.net.

A500+ Cartoon Classics pack, other games and useful software, £50. ☎ 01792 232867.

Blizzard 1260/50 accelerator. Not suitable for upgrade to PPC. £150. ☎ 01727 833664 (evenings).

Commodore CD-ROM drive for A500+ (needs power pack), £30. Hard disk with '030 accelerator for A500, £100 ono. Not sure if it works on 1.3 A500. 341 Kenton Lane, Harrow, Middlesex, HA3 8RT.

Alphapower 1.0Gb hard drive with 8Mb fast RAM for A500/500+. Plugs into left side of Amiga. £322.50 new, accept £200 with hard disk or £150 bare controller. ☎ 01945 780552.

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Apollo 1240/25MHz Turbo board, boxed, plus 4Mb SIMM, £80. ☎ Robert 01706 654010 or 01706 359419 (answerphone).

Amiga 4000/'030, 10Mb RAM, 1Gb hard drive with all the best software and games 14" Microvitic monitor, external floppy drive, mouse, joystick, £350 the lot. ☎ 0181 5430496.

WANTED

Amos Pro Compiler desperately wanted. drpetter75@hotmail.com.

Disk one for Bubba n Stix and Lion King as mine are corrupt. Please help enthusiast. ☎ 01703 347233.

Information about M1230xA accelerator for Amiga. Also driver for Integrey colourjet 132 printer. ☎ 01792 416197.

Help appreciated for PC-Task. James Smith, 79 Woldholme Avenue, Driffield, East Yorkshire, YO25 6RW.

Rebuilding games collection, almost all titles wanted (Chaos Engine, Dream Web, Shadow of the Beast III, Aladin, Arkanoid and loads more. Sensible price paid. ☎ George 07931 955147 (7pm-midnight, South London, can return call if required).

I'm looking for Colonization please. Originals only. Must work on A1200. Must also come with box and manual. ☎ Jamie 01780 470171 after 5pm. Floppy disk only.

Virocop AGA. Will buy or swap for my boxed games. No pirate copies, thanks. Andrew Jackson, 7 Nut Tree Close, East Huntspill, Nr. Highbridge, Somerset, TA9 3PN.

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Scanquix. Will exchange for Quake CD or Power hand scanner. ☎ Tam 01634 576455.

A4000 required, any specification considered. ☎ 0181 7694997.

A4000 '040 desktop accelerator board. ☎ 0161 8327793.

Manual for TurboPrint 5 or 6. Please phone with price, etc. ☎ 01782 566115.

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Copy of Championship Manager 1998 results page as I've lost my original. ☎ 01703 890733.

The Settlers. No pirate copies. Email pobice@usa.net.

PERSONAL

Also see the AmigaAngels document on our CD.

Issue 3 of the World Of Amiga disk magazine is available now from http://www.trogsoft.freeserve.co.uk/woa.htm.

Amiga contacts wanted. 100% reply. Send disk/list to: David Smith, 168 Edgehill Road, Harraby, Carlisle, Cumbria, CA1 3SA, or e.mail smithd@free4all.co.uk.

TWK-Productions seek coder. Skilled StormC/Assembler coder needed for game projects. You must know how to include CyberGraphX, P96, AGA, PPC and FPU-support. Access to the Internet is vital! Send examples of codings to the addresses below, or send a mail first. Check out our website at: http://welcome.to/TWK-PRODUCTIONS/ or contact Bård: Toffypops@oslo.online.no or Mark: Klown@revealed.net.

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The Forum! BBS online 24 hours, Kilmarnock, Scotland. Over 35 members, 2,000+ files available, including games, pics, utils, etc. Sysop: Jamie Maguire. Run by a software development student. ☎ 01563 540863. 36K.

Bill's BBS, Cumbria, online 24 hours (mail only between 2.30am and 3.30am), ☎ 01229 434393 or 0870 7878615. Sysop: Bill Clark. Visit http://cumbria.cjb.net, email billsbbs@cornerpub.com or bill.clark@ukonline.co.uk. Supports Fidonet. Loads of free files, games, doors, quizzes,etc. Unlimited downloads.

Zodiac BBS, Hants. Online 11am-7pm 7 days a week. ☎ 01243 373596. Sysop: Destiny Co. Sysop: Axl. Running Maxs Pro v2.11, Hellnet. Lots of files.

Quest BBS, Wakefield. West Yorkshire's largest BBS with over 30,000 files online, including the latest 7 Aminet CD-ROMs. Online weekdays, 6pm-6am and weekends, 2pm-6am. ☎ 01924 250388.

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Moonlight BBS, Bedford, online 6pm-8am, 24 hours at weekends, ☎ 01234 212752. Sysop: John Marchant. Email gnome@enterprise.net. Official Transamiga Support BBS, unlimited downloads, very friendly sysop with excellent Amiga knowledge. Aminet online. Run by an experienced Amiga programmer who will help for free.

Arachnoids BBS, Leicestershire, online 24 hours, ☎ 01509 551006.

Xanadu BBS, Wigan, online 24 hours. ☎ 01942 746342.

Echoes BBS, (Camberley). Line 1 ☎ 01276 502641, 56K, 24 hour. Line 2 ☎ 01276 502642, 33K, 24 hour. Sysop – Steve Barnett. http://surf.to/echoes.bbs Latest Aminet downloads, nine online CD-ROMs, Fidonet and other mail networks. Offline reading available and free email to all members. In fact, free everything – no subs of any kind as the BBS is run for the love of the Amiga and Xenolink software.

X Zone BBS, supporting the Amiga for over two years. Do you want the latest files? ☎ 01635 820590, 6pm-1am, modem callers only (33.6K). Call now.

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USER GROUPS

User group ads will be printed for three issues.

Will you, can you, do you want to or do you need help with your Amiga? If so, please ☎ Terry 01709 814296 (Rotherham).

West Lancs User Group. Sundays, 1pm-4pm at St. Thomas School Hall, Highgate Rd, Upholland. ☎ 01695 623865, email ralph@twiss.u-net.com. Help and advice, novices and experts welcome. Printing and scanning done for free. We also have a PC section.

Live in the west/Wales? No Amiga owning mates? Then be one of the first to join the Wales and South West Amiga Group by mailing mazz@sucs.swan.ac.uk or calling 07801 453571!

Workbench, the Manchester Amiga user group. We meet on the first Thursday of each month at 7:00pm and offer general Amiga chat. ☎ 0161 839 8970. Also, check out our website at: www.workbench.freeserve.co.uk. Alternatively, email: mail@workbench.freeserve.co.uk.

Want the latest reviews, news, interviews, articles? then visit the NEW AIO website at http://www.aio.co.uk, or visit #amos on ircnet, Saturday 9pm-midnight.

Amiga users – do you need help? Amiga users – can you help? If so, contact Terry for more details. ☎ 01709 814296.

Medway and Maidstone Amiga collective. Meets monthly. Advice at all levels. Experts and beginners wanted. ☎ Dave 0961 809466. Support your local user groups!

Join a new email club for Klondike, a Reko Productions game. Cardset creators and cardset collectors, Amiga and PC. Email kevin@reko.karoo.co.uk (make friends).

Bournemouth: Dorset/Hampshire. Anyone interested? User group contacts. Amigan, one year, seeks new/old users for chat/helping each other. Email to start, can/will post later if not online. gctshe_m@mail, bournemouthandpoole-cfe.ac.uk.

New Amiga sound and demo association seeks input, contacts and support to form a user group based around the Amiga music and demo scene. Interested? ☎ Daev 01243 864596 or 0961 985925.

Interested in Internet Relay Chat? Why not visit #Amigazone on Dalnet? We are a friendly bunch and meet at 10pm every day. Visit: http://www.tsd-ltd.demon.co.uk.

Is there anybody in the Northamptonshire area interested in starting up a new user group? Please contact me: ☎ 01536 724309 or email nsthomas@ukonline.co.uk.

Greenford Computer Club. 180 Oldfield Lane South, Greenford, West London. Meets: Thursdays 7-10pm. Everyone welcome. Anything Amiga. ☎ Richard Chapman 0181 9988599 after 7pm weekdays, all day weekends, or email if97rrc@brunel.ac.uk.

The Amiga free helpline needs helpers, especially with regard to video, music, radio, graphics cards, PPC and digital cameras. Also, anything else that you can think of. ☎ Terry 01709 814296.

Great Yarmouth user group. Anyone interested in joining this new group, ☎ John 01493 722422.

Any Amiga users in Birmingham wanting to set up a user group? Please ☎ Hitesh 0121 6056452.

Amiga free helpline needs helpers. Also, it needs to help other Amiga users. If you fit into either category, ☎ Terry on 01709 814296 for more information.

SEAL, South Essex Amiga Link. Meets twice monthly at Northlands Park Community Centre, Basildon, Essex. Offers help, advice, tutorials and presentations on popular software and hardware. Also scanning, printing, email and a 36 page A4 magazine. Contact Mick Sutton, 20 Roding Way, Wickford, Essex. ☎ 01268 761429 (6-9pm). Email seal@thunder.u-net.com or visit http://seal.amiga.tm.

SHOPS

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AmigaTech Australia, 17 Thompson Circuit, Mill Park, Melbourne, 3082, Victoria. ☎ 03 9436 5555, fax 03 9436 9935, email r.palmer@amigatech.com.au or visit http://www.amigatech.com.au *Stocks all Amiga products, including a new A4000 tower and the latest products from phase 5.*

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Desktop Utilities, Shop 13, Manuka Court, Manuka, Canberra. ACT. ☎ 02 6239 6658.

MVB Computer Supplies, 506 Dorset Road, Croydon, Victoria. ☎ 03 9725 6255.

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Sells a range of hardware and software and also offers an Amiga repair service.

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Stocks PD disks, CD-ROMs, software, hardware and offers services like scanning, hard drive recovery and laser printing.

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Stocks all Amiga products, full line, Amiga dealer and service centre.

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Kiwi Multimedia, Lerager 60, 3600 Frederiksund. ☎ 4738 0639.
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Broadline Oy. ☎ 09 8747 900, email broline@dlc.fi

Broadware Oy. ☎ 09 7001 8580, visit http://iwn.fi/broad.html
Sells a good range of accelerators and other items of hardware.

Gentle Eye Ky. ☎ 03 363 0048, email ge@vip.fi
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Software Paradise, Rue de Lamouly 39, 64600 Anglet. ☎ 5 5957 2088, fax 5 5957 2087, visit http://www.SParadise.com
Official MicroniK distributor.

Atéo Concepts, Le Plessis, 44220 Coueron, Nantes. ☎ 2 4085 3085, fax 2 4038 3321, visit http://www.ateo-concepts.com, email info@ateo-concepts.com
Manufacturer and distributor of Atéo products, such as the Pixel64 card.

Pragma Informatique, Route Departementale 523, 38570 Tencin. ☎ 4 7645 6060, fax 4 7645 6055, visit http://www.pragma-info.com

APS, Rue Louis Maurel 15, 13006, Marseille. ☎ 4 910030 44, fax 4 9100 3043, visit http://www.aps.fr aps@aps.fr
Only sells quality products.

SL Diffusion, Route du General de Gaulle 22, 67300 Schiltigheim. ☎ 3 8862 2094, visit http://195.132.8.152/sld
Very friendly manager.

ADFI Application, Avenue de la Liberation 47, 63000 Clermont, Ferrand. ☎ 4 7334 3434
Distributor of many titles translated into French and have a special agreement with Haage & Partner to sell French versions of their software.

Phoenix-DP, BP 801, 64008 Pau Cedex. ☎/fax 5 5982 9500, visit http://www.phoenix-dp.com, email phoenix@club-internet.fr
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Computer City, Zebrastraat 7-9, NL 3064 LR, Rotterdam. ☎ 31 10 4517722, email info@compcity.nl
Sells most Amiga products and the staff are very helpful.

Courbois Software, Fazantlaan 61-63, 6641 XW, Beuningen. ☎ 024 677 2546.
All hardware and software, with many second-hand products at very low prices.

Document House Xerox, Postbus 542, 8901BH, Leeuwarden. ☎ 058 280 0530 or 058 275 2384.
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Amiga Service, Office 309, Bumazhnaya Str 3, Sankt-Peterburg, 198020. ☎ 812 1868842.
A1200 hardware.

SPAIN +34

Club Byte, C/D. Juan de Mena, 21 bajo Izq, 46008 Valencia. ☎/fax (96) 3921567.

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Stocks a wide range of Amiga hardware, towers and serious software, including the official Swedish version of Final Writer.

Syscom, Kvarnplan 6, Jakobsberg. ☎ 08 5803 7300, fax 08 5803 7302. Visit http://www.mematex.se or email syscom.amiga@mematex.se
Stocks Infinitiv towers, phase 5 products and plenty of other hardware, but very little software.

GGS Data, Korsklevegatan 30, Göteborg. ☎ 031 532526, fax 070 7112492.
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Computer and Games Exchange, 65 Notting Hill Gate, London. ☎ 0171 2211123.
Stocks second hand games.

Online PD, Unit 5, Embassy Building, 51a Piercefield Road, Formby, Liverpool, L37 7DG. ☎/fax 01704 834335.
Stocks PD and commercial games, hardware, peripherals, storage units, blank disks, inkjet refills, etc, and some reconditioned hardware.

16/32 Systems, 173 High Street, Strood, Rochester, Kent. ☎ 01634 710788.
Stocks games plus new and used hardware, with a helpful staff.

Dr. Flay's Amiga Clinic @ The Global Lounge, Unit 13, Lemon Street Market, Lemon Street, Truro, Cornwall, TR1 2NS. ☎/Fax: 01872 274037, email dr_flay@hotmail.com or mike@globallounge.co.uk or visit http://www.globallounge.co.uk
Only stocks PD at the moment, but can order anything with good prices on phase 5 hardware. They are an Internet shop and make websites, do design work, advertising and promo material and can also build custom Amiga/Siamese setups.

Gamestation, Unit 29, The Market Vaults, St. Helens Square, Scarborough, North Yorkshire.
Stocks hardware, games and utilities. Helpful staff.

HardPlay Software, 2 Broad Street, Newquay, Cornwall, TR7 2BU. ☎/fax 01637 850909.

Level 7, 113 Victoria Road West, Cleveleys. ☎ 01253 859004.

SES Computers, 88-90 London Road, Southend-On-Sea. ☎ 01702 335443 or 01702 354624. Email sesltd@globalnet.co.uk
A large selection of Amiga software, mice and joysticks. Buy and sell hardware and software. Also do repairs and the staff are very helpful.

Tech-Exchange, 3 Forest Road East, Nottingham, NG1 4HJ. ☎ 0115 9100077.
All Amiga products and a helpful and knowledgeable staff.

Cavendish Computers, 144 Charles Street, Leicester. ☎ 0116 2510066.
Hardware (old), games and utilities.

Classic, 11 Deansgate, Radcliffe, Manchester. ☎ 0161 7231638.
PD, commercial games, CD32, CD-ROMs, hard drives, CD-ROM drives, A1200s, floppy drives, disks, modems. Free fitting service on hard drives.

Mays, 57 Church Gate, Leicester city centre. ☎ 0116 2516789.

Swops, Corner of Bold Street, Fleetwood. ☎ 01253 776977.

Computer Solutions, Unit 2, Mill Lane Mews, Ashby-de-la-Zouch, Leicestershire, LE65 1HP. ☎ 01530 412983.
New and used software, hardware, stocks full range. Helpful staff.

Planet Games, 3 Royal Oak Buildings, Waterloo Road, Blackpool. ☎ 01253 348738.

Allsorts, 51 Park Road, Wosbrough Bridge, Barnsley. ☎ 0589 272940. *Used games, PD, disk drives, monitors.*

Game, Sheffield Town Centre. ☎ 0114 2729300. *Sells various Amiga games, utility disks and other items of software. Customers can reserve games in advance.*

Vortex Services, 13-15 St. Michael's Square, Ashton Under Lyne, Lancs, OL6 6LF.

Computer Cavern (Capri CD Distribution), 9 Dean Street, Marlow, Bucks, SL7 3AA. ☎ 01628 891101.
Huge stock of Amiga games.

USA +001

A.D.A. Computers, 11770 Stucki Road, Elberta, AL 36530. ☎ 334 986 8428, fax 334 986 6308, email adfarm@gulftel.com
Stocks printers, scanners, software, all classic Amiga and magazines. User group meetings first Tuesday of every month, with monthly newsletter.

TLAS, PO Box 30499, Midland, Texas, 79712. ☎ 915 563 79712.
Games, software, some hardware.

BUY AND SELL HARDWARE & SOFTWARE... FOR FREE

The editor reserves the right to refuse or amend ads. We accept no responsibility for typographical errors or losses arising from the use of this service. Trade ads, including PD advertising, will not be accepted.

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Free!



Edinburgh Amiga Group





Chris Livermore dons his kilt and pays a visit to a Scottish user group.

One of Scotland's three active Amiga user groups can be found in the very beautiful and very cold and wet capital city, Edinburgh. Given this piece of information, there are no prizes for guessing that they're called the Edinburgh Amiga Group.

> "As well as holding regular meetings, the Edinburgh Amiga Club also hold stalls at local computer fairs..."

The Edinburgh Amiga Group meet in Gilmerton Miners Club, a 15 minute bus ride south of the city centre, every other Tuesday from 7:30pm. The club has about 30 members in total, and about half of them turned up at the meeting I attended.

Although the venue has a private room upstairs where they can set Amigas up, most meetings are of a more informal nature downstairs in the bar, and involve Amiga chat of a mainly non-technical nature. Jim Gifford, the club secretary, told me that they don't usually have any Amigas at their meetings, unless a member has a problem with a piece of hardware of software that they need help in solving, in which case they can use the private room upstairs to hold their meeting.

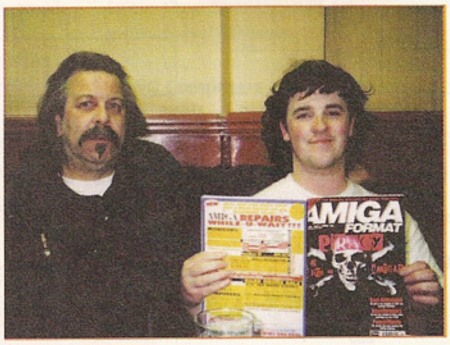


The prestigious meeting venue...



Edinburgh Amiga Club – a more motley crew you couldn't hope to meet!

Despite the fact that there were no Amigas in sight, within less than five minutes I was in no doubt that I was in the midst of an Amiga user group meeting. The topics of conversation covered almost everything Amiga-related, and ranged from the much promised new Amiga to members' first Amiga experiences; new games and software to problems and tips on existing applications; and, of course, the obligatory PC bashing. Actually, Windows bashing is probably a more accurate description as many members are now using *Linux* when they have to turn to a PC. In fact, Jim told me the club is also now open to *Linux* users, although so far there's only one *Linux* user without an Amiga.



Jim Gifford, club secretary (left), with Barry from Internet magazine *The Ripper*.

As well as holding regular meetings, the Edinburgh Amiga Club also hold stalls at local computer fairs on a regular basis, offering both Amiga and *Linux* help and advice. Other members, such as Barry Smith who produces the Internet magazine *The Ripper*, actively go out of their way to offer help, support and news to any other Amiga owners worldwide through the Internet.

If you happen to find yourself in the Edinburgh area on a Tuesday evening (as I did!) give these guys a call and they'll make you feel very welcome.

Lost Souls Form

No user group near you? Then fill in this form and send it to: User Groups • c/o Amiga Format • 30 Monmouth Street • Bath • BA1 2BW.

Name ....

Telephone ....

Email ....

Address ....

....

Postcode* ....

***You must fill in your postcode as this is used to calculate how far from other Lost Souls you are.**

EDINBURGH AMIGA GROUP INFO

Contact Jim Gifford (jim@eac.ednet.co.uk) or Barry Smith (Barry@amiga95.freeserve.co.uk, 01620 829447) for details of upcoming meetings and visits to computer fairs in the Edinburgh area.

afb

Amiga Format's mailing list is getting more active all the time. Over 600 people are now on it. **Why aren't you?**

Should you want to have your say about important Amiga topics, like those quotes in the piracy feature in the May issue of *Amiga Format*, the way to do it is to get on the afb mailing list. The afb is chock-full of info and fun every day and has *Amiga Format* readers from all over the world involved. If you have a tricky technical problem or just want the latest details on the new Amiga or the current one, the afb is where you'll find what you need.

Besides discussing all the latest Amiga developments and news, this month we've all had immense fun straying to more obscure and even metaphysical topics. Just how many languages can Ben speak, how real are imaginary numbers and what happens at the speed of light?

In addition to the messages on the afb, it's also the place where you can answer polls set by us or other users of afb, find out the deadlines for the next issue of *Amiga Format* or for special upcoming events, as well as visiting some of the links posted by Amiga users.

In any case, it's a useful forum for discussion which will help Amiga users stick together in adversity. The crowd on afb is friendly and at all experience and age levels so you won't be out of place, no matter how old or young you are, whether you don't know one end of an Amiga from the other or whether or not you can recite the registers on every custom chip the Amiga holds.

It's easy to join, as you can see from the boxout, free to use and will help to enrich your Amiga-using life. If you're online, what are you waiting for?

GETTING ON AFB:

You can subscribe to the afb by going to the following website and signing up:
http://www.egroups.com/group/afb/

If you just want news on when the next issue of *Amiga Format* will be out, we offer that at:
http://www.egroups.com/group/afb-announce/

It's worth joining both lists since they each offer unique things and the announce list usually only has one email every four weeks.



Fax-Back

The fax-back service is growing this issue, but we still want to know what you want to see here.

Whether it's tutorials, reviews or features from recent issues or older ones, we're ready to include what you want to see, so just get in touch and give us the details of what you want (feature name, issue number, page numbers) and we'll put it on the list. If you don't know these details, ask us anyway and we'll see what we can do.

Remember that you'll need to have a combined phone/fax or *STFax* and a fax modem in order to take advantage of this service.

HOW TO GET IT:

1. Dial 0906 302 1437 and wait for a fax check.
2. Key in the three-digit code listed in the table on the right for your chosen article.
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If you run into any difficulties, contact our fax-back helpline on 0870 120 1240 (helpline open Monday to Friday, 10am-5pm; calls from the UK are charged at local rate).

Fax-back calls cost 50p per minute at all times. The service takes between two and eight minutes per page, depending on the quality of the phone line, your fax machine's specifications and the number of photographs on a page. Introductory pages with illustrations only won't be included, only pages with text. UK premium rate numbers may not be accessible from overseas.

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AF 125 – JULY 1999

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Art Editor: Colin Nightingale
Staff Writer: Richard Drummond
Contributors: John Kennedy, Simon Goodwin, Dave Cusick, Dave Taylor, Tony Horgan, Nick Veitch
CD Compilers: EMComputergraphic 01255 431389
Publisher: Dominic Beaven
Assistant Publisher: Tim Tucker
Publishing Director: Jane Ingham
Public Relations: Jennifer Press
Tel: 0171 331 3920

Overseas Licensing enquiries: Chris Power
Fax: +44 (0) 1225 446019, chris.power@futurenet.co.uk
Group ad manager: Simon Moss
Ad Manager: Rob Bennett
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Group Production Assistant: Lorraine Ford
Colour Scanning & Imagesetting: Jon Moore, Mark Gover, Brett Caines, Matthew Rogers, Jason Hudson
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30 Monmouth St, Bath, Somerset BA1 2BW

Telephone	**01225 442244**
Fax	**01225 732275**
Subscriptions (see p.50)	**01458 271102**
Customer Services	**01225 822510**

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If you have a feature idea, a long term test, a reader request or you want to be in the Amiga Angels list, send an email to ben.vost@futurenet.co.uk, with "Features", "Reader Review", "Reader Request" or "Amiga Angels" in the subject line accordingly. If you don't have email, a letter to the *AF* address with the same subject headings is also fine.

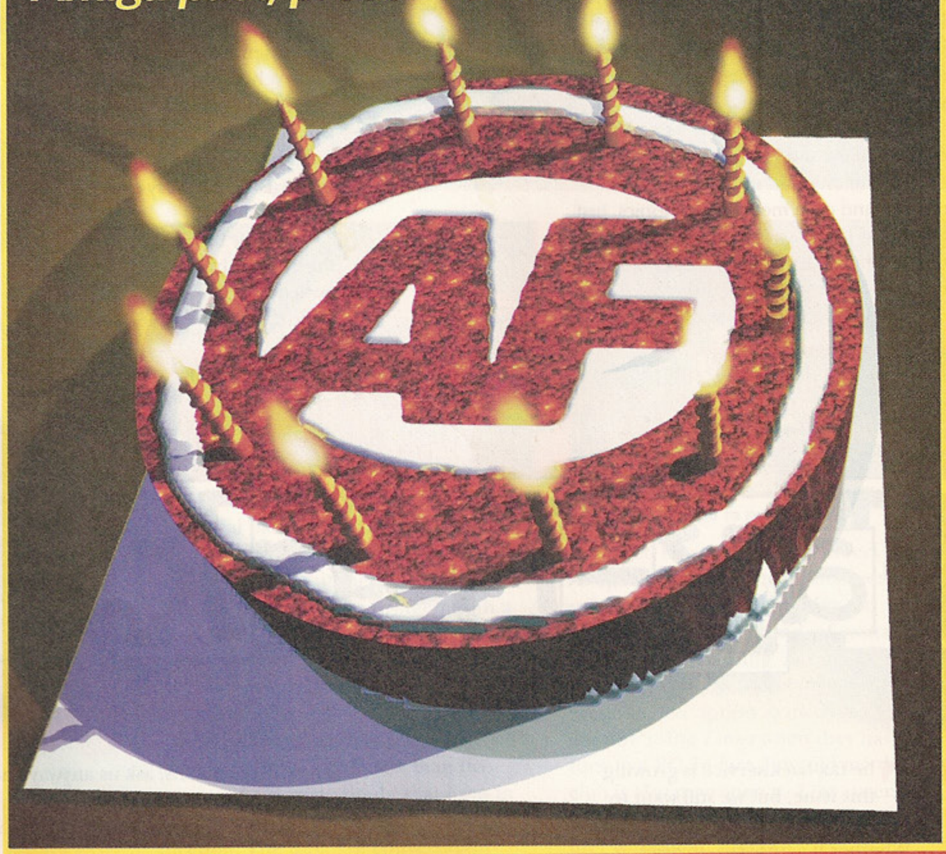
If you want to speak to us about a technical problem, we have a reader call day on Tuesdays. Call us on (01225) 442244 (10am–1pm, 2pm–5pm only). We're sorry, but we can't give games tips over the phone.

ABC Member of the Audit Bureau of Circulations. Registered Circulation
14,644 July – December 1998

Next Month

WE ARE 10!

Join the celebrations as we discuss the Amiga past, present and future.



PLUS: *Possible reviews of:*

A1200 75MHz '060, Power Flyer A4000, Moonbases and much, much more…

August Issue on sale Monday July 5th

The contents of future issues may be subject to change – no guarantee is implied or intended.

Amiga Format's mailing list is getting more active all the time. Over 600 people are now on it.

Why aren't you?

afb

You can subscribe to the afb by going to the following website and signing up:

http://www.egroups.com/group/afb/

new product £34.95

new powermovie software

Power Computing is proud to annouce the final release of its long awaited PowerMovie. After its successful review in the May issue of Amiga Format, PowerMovie, the animation editing tool, playmovie and the animation player tool, have undergone a few more changes and extra testing. Below is a list of the key features: ,



- Full compatibility with all AGA Amigas
- Edit 320 x 200, 256 colours or HAM-8 frames based animations
- Length of animations is only limited by OS restrictions, space on hard drive or CD-ROM drive
- Real time playback, including synchronised soundtrack and sound effects
- Frames can be any size and have different palettes (they will be resized and remapped according to the chosen format)
- Frames can all be played at the same (full) speed, or groups of frames/single frames can be played with a specified delay
- 17 frames per second should be possible on an Amiga with a 50MHz 68030 and 8MB of RAM. 25fps (and more) on a 68040/68060 equipped machine.
- Independent player to record on a VCR, show or view the animation
- A stereo soundtrack can be encoded with the animation (generating one file)
- Separate sound effects can be sychronised to specific frames
- Minimum requirement for decent playback speed is a 6x CD-ROM, 8MB of RAM and 68020 equipped machine



PowerMovie CD-ROM **£34.95 plus p&p**

new product

new amiga OS3.5 upgrade

Power Computing is the Official distributor of the new OS3.5. We are able to offer a special discount for 3.1 ROM chips when purchased with OS3.5. Below are some of the features of Amiga OS3.5. Available in August.

workbench

It will no longer be necessary to use a shift key when selecting more than one icon on your desktop. The submenus of the WB screen will be optimised for better handling.

internet

Internet support will come in the shape of a special version of the AWeb browser. The TCP/IP stack will be Miami and there will be integrated network support.

icons

Standard and New icons will be supported. AppIcons will support animation. When selected, icons will glow; when dragged they'll become semi-transparent. You'll be able to set the task priority of a program via Workbench Icon information function.

printers

The printer support will be redesigned completely so that 24-bit printing will be possible from Workbench. CyberGraphX and Picasso96 will be supported. There will only be one Printer Prefs in the future, which will also have a preview window immediately showing the changed settings.

available august £34.95



powerpc

Warpup will be integrated in its latest version. An important part will be the preferences settings which will complement the integration.

installer

It will be possible to open the installer on its own screen and you will now be able to go back to a previous step in the installer too.

datatypes

Datatypes will be improved and 24-bit capable. New datatypes will be provided for AIFF, JPEG and GIF.

special OFFER

3.1 ROM chips at a special price only when purchased with the new Amiga OS3.5.
A500/600/2000 ROM chips - **£14.95** A1200/3000/4000 ROM chips - **£19.95**

OS3.5 PRE-ORDER FORM Please send me an OS3.5 upgrade @ £34.95

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A1200/600/2000 ROM chips @ £14.95 ☐ A12000/3000/4000 ROM chips @ £19.95 ☐

TOTAL £........... Please add £5 delivery. Make cheques payable to Power Computing Ltd



- Thousands of combinations to make hundreds of units
- Tactical battles
- Exploring, mining and building
- Up to three players can take part
- Missions and freeform games
- Playable on any Amiga with CD-ROM
- Graphics card support

Red Mars CD-ROM **£19.95**

new allegro cdfs software

- The fastest Amiga CD File System.
- The first Amiga file system to support UDF (the Video DVD format).
- Access to: ISO 9660 level 1, 2 and 3, Joliet (Windows95/98 long name) level 1, 2 and 3 RockRidge (with Amiga Extensions), CDDA, UDF (Video DVD)
- Supports Amiga protection bits
- Supports Multisession
- Supports SCSI and ATAPI devices (CD-ROM, CD-R, CD-RW, DVD)
- Supports direct audio grabbing from standard audio CDs

Allegro is only compatible with EIDE'99 and the Powerflyer.

Allegro CDFS **£10**

new a4000 power flyer

- Enhanced IDE/ATAPI controller for ZORRO III bus Amigas
- The first Amiga 3000/4000 E-IDE/ATAPI controller supporting PIO-3 and PIO-4 modes (for up to 16.6MB/sec)
- The transfer is several times faster than any currently available ZORRO II IDE/ATAPI controller
- Fully autoconfig ZORRO III card
- Autoboot from any removable media (ZIP, LS120)
- FastATA'99 - Highly sophisticated supporting software
- Includes Allegro CDFS - the fastest Amiga CD file system, supports video DVD format

On the A4000 two devices canbe attached to a standard IDE controller, and another four to the A4000 Power Flyer. More than one A4000 Power Flyer can be installed at the time. After it has been switched on, the Amiga can boot from any of the Hard Drives connected either to the Power Flyer or to the Standard IDE controller.

A4000 Power Flyer **£79.95**

new directory opus magellan II

Workbench upgrade and file management system - Amiga Format Gold 97% **£49.95**

new image fx and aladdin

Amigas most powerful image software - from **£29.95**

new scala mm400

Multimedia presentation software **£55.95**

memory expansion boards

A1200 4MB not upgradable, with battery backed-up clock	£39.95
A1200 bare with standard SIMM socket with battery backed-up clock	£39.95
A1200 with standard 4MB SIMM socket with battery backed-up clock	£45.95
A1200 with standard 8MB SIMM socket with battery backed-up clock	£55.95
PGA 40MHz FPU for all the above cards	£15.95
A500 1MB Chip RAM battery backed-up clock	£19.95
A600 1MB Chip RAM battery backed-up clock	£24.95
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CDTV 2MB RAM	£49.95

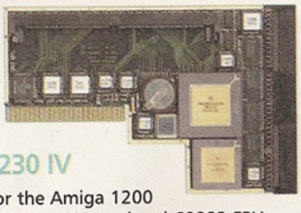
amiga 3.1 operating system

Amiga 3.1 OS for A1200/3000/4000 ROM chips, disks and manuals	£39.95
Amiga 3.1 OS for A500/600/2000 ROM chips, disks and manuals	£35.95
Amiga 3.1 OS disk set and manuals	£19.95
Amiga 3.1 OS A1200/3000/4000 chips only	£25.95
Amiga 3.1 OS A500/600/2000 chips only	£19.95

new products

phase 5 blizzard accelerator cards

Power Computing is now the sole distributor for the UK of the Phase 5 product range. The range of products include the popular Blizzard series of accelerator cards for the A1200, A2000 & A4000. Check out our web site for all the latest product news - www.powerc.com



blizzard 1230 IV

Accelerator card for the Amiga 1200 68030 33, 40 or 50MHz CPU, optional 68882 FPU, up to 128MB RAM, optional SCSI 2 controller **£99.95**

blizzard 1240 t/ERC turbo

Accelerator card for Tower housed Amiga 1200 Low-cost 68040ERC (EcoReCycling) 40MHz with MMU/FPU, up to 128MB RAM, optional SCSI 2 controller 28MHZ - **£139.95** 40MHZ - **£189.95**

blizzard 1260 turbo

Accelerator card for the Amiga 1200 68060 50MHz CPU with MMU/FPU, up to 128MB RAM, optional SCSI 2 controller **£319.95**

blizzard 2040/2060 turbo

Accelerator card for the Amiga 2000 68040 or 68060 50MHz CPU with MMU/FPU, up to 192MB RAM, on-board 50 pin connector fast SCSI-2 interface **£POA**

cyberstorm mkIII turbo

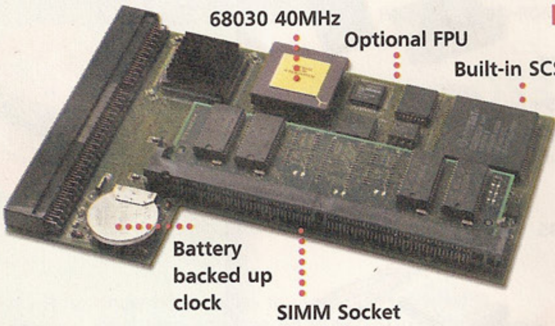
Accelerator card for the Amiga 3000 T & 4000 T 68060 50MHz CPU with MMU/FPU, up to 128MB RAM, ultra wide SCSI 3 interface slot for Cybervision PPC GFX card, full genlock compatibility **£POA**

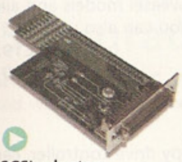
SCSI-kit IV

Fast SCSI 2 DMA controller for the 1230-IV and 1260 turbo board. The SCSI kit is a fast SCSI 2 DMA controller which allows the instant access to large variety of SCSI-1 and SCSI-2 devices. It's 32-bit DMA engine transfers up to 10MB/sec with up to 80% free CPU time. A second SIMM socket allows the memory to be expanded by 128MB. **£69.95**

new cybervision available - call

new typhoon mk2 board





SCSI adaptor for MK1 Typhoon (no need to open your Amiga) **£19.95**

SPECIAL OFFERS

Typhoon MK2 inc.32MB (w/out SCSI) **£139.95**

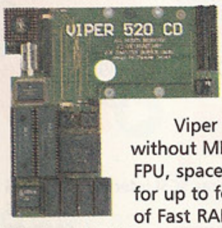
Typhoon MK2 inc.64MB (w/out SCSI) **£175.95**

Typhoon MK2 inc.128MB (w/out SCSI) **£289.95**

new typhoon mk2 accelerator

Full 68030 40MHz with MMU, optional 40MHz PGA FPU, SCSI included (no need for SCSI adaptor), fit up to 64MB RAM (any double or single sided 72-pin SIMM), battery backed up clock, 50 pin SCSI connector on board including software and manuals (suitable for all our towers and A1200 desktop) **£99.95**

NEW Typhoon Mk2 without SCSI	**£89.95**
NEW Typhoon Mk2 SCSI Chip	**£20.00**
NEW Typhoon Mk2 Desktop Ext. SCSI adaptor	**£14.95**
NEW Typhoon Lite, bare board with on-board SIMM/FPU socket, not SCSI upgradable	**£69.95**



amiga 500 accelerator card

Viper 520CD, 68020EC 33MHz, without MMU, optional 33MHZ PGA FPU, space for one 2.5"HD, support for up to four IDE/ATAPI devices, 8MB of Fast RAM on board and 3.0 Kickstart ROM including full 3.0 Workbench disk set FAT Agnus slot to fit Mini Mega Chip **£99.95**

Mini Mega chip (2MB Agnus chip and 1MB extra Chip RAM) **£79.95**



cd-rom drives internal/external

ATAPI cd-rom drives

6x Internal ATAPI CD-ROM (bare unit)	**£29.95**
6x External ATAPI CD-ROM	**£69.95**
32x Internal ATAPI CD-ROM (bare unit)	**£39.95**
32x External ATAPI CD-ROM (tray loading)	**£79.95**
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36x External ATAPI CD-ROM (tray loading)	**£85.95**

(External includes Buffered Interface, EIDE '99 software, cables and 2 CD titles)

SCSI cd-rom drives

2x External SCSI inc. Squirrel	**£65.95**
32x Internal SCSI CD-ROM (bare, tray loading)	**£89.95**
32x External SCSI CD-ROM (tray loading)	**£149.95**

(External includes cables, Squirrel SCSI interface with software and 2 CD titles)

cd-rewritable drives

4 x 4 x 20 CDRW ATAPI CD-Rewritable Int.	**£269.95**
4 x 4 x 20 CDRW ATAPI CD-Rewritable Ext.	**£329.95**
TwinBox with 4 x 4 x 20 CDRW ATAPI CD-Rewritable and 3.1GB Hard Drive	**£479.95**
Box of 10 CDR discs	**£14.95**
Box of 5 CDRW discs	**£39.95**

(All the above external bundles include: case, cables. 4-way IDE interface with IDEfix 97 fully registered, MakeCD, 5 x CDR discs and 1 x CDRW Disc)

For any external removable device we offer the PowerFlyer instead of the 4-way buffered interface for **£49.95**



LS120 drive

LS120 120MB Internal ATAPI including 4 way buffered i/f, EIDE 99 software, IDE cable and 1cartridge	**£89.95**
LS120 120MB Internal ATAPI (bare unit only)	**£69.95**
LS120 120MB External ATAPI including 4 way buffered i/f, EIDE 99 software, IDE cable and 1 cartridge	**£139.95**
LS120 cartridge	**£9.95**

new amiga 1200 magic pack

A1200 3.1 computer, 2MB 68020, AGA chipset, Wordworth 4.5SE, Turbocalc 3.5, Data store 1.1, Photogenic 1.2SE, Personal Paint 6.4, Organiser 1.1 Pinball Mania and Wizz games **£179.95**

As above with 160MB HD & Scala MM300 **£219.95**

As above with extra 8MB RAM **£259.95**

amazing hard drive deals



Plug and play hard drive. Includes cable and is already partitioned

hard drives

2.5" **810MB** IDE including IDE cable	**£69.95**
2.5" **3.2GB** IDE including IDE cable	**£159.95**
2.5" **4.1GB** IDE including IDE cable	**£195.95**
2.5" **5.0GB** IDE including IDE cable	**£219.95**
3.5" **3.2GB** IDE including IDE cable and install disk	**£99.95**
3.5" **8.4GB** IDE including IDE cable and install disk	**£149.95**
3.5" **13GB** IDE including IDE cable and install disk	**£199.95**

(8.4 and 13GB HD are supported automatically by the PowerFlyer or by IDEfix 97 using the patch provided, an updated FileSystem is available on www.amiga.de) Please note that cables included with 3.5"HD have standard 40pin headers. If you need to connect a 3.5" HD directly to the A1200 motherboard, you will need a special "stack" cable 44 high density (2.5") to 40 standard (3.5") IDE cable **£12.95**

squirrel interface

Squirrel interface - suitable for any scsi-device **£39.95**



new 250MB zip

iomega zip

Zip 100MB external SCSI including Amiga Zip tools, & cable (requires Squirrel or any SCSI interface)	**£139.95**
Zip 100MB internal ATAPI including 4 way buffered int., EIDE 99 software, IDE cable and 1 cartridge	**£99.95**
Zip 100MB internal ATAPI (bare unit only)	**£75.95**
Zip cartridge (100MB)	**£12.95**
NEW Zip 250MB External SCSI	**£189.95**
NEW Zip cartridge (250MB)	**£19.95**



floppy drives

A500/A600/A1200 Internal Drive	**£34.95**
A2000 Internal Drive	**£39.95**
PC880E External for all Amiga models	**£39.95**
XL 1.76MB External for all Amiga models	**£65.95**
XL 1.76MB Internal for A4000	**£60.95**

memory modules and fpu's

for accelerator and expansion boards

4MB SIMM	**£14.95**
8MB SIMM	**£19.95**
16MB SIMM	**£35.95**
32MB SIMM	**£55.95**
32MB SIMM (slim for Blizzard 1260 boards)	**£79.95**
64MB SIMM (Typhoon and all Blizzards)	**£139.95**
128MB SIMM (Typhoon and all Blizzards)	**£199.95**
1MB ZIP RAM static column for A3000	**£16.95**
GVP custom 4MB RAM module	**£49.95**
GVP custom 16MB RAM module	**£99.95**
20MHz PLCC FPU	**£1**
33MHz PLCC FPU	**£1**
40MHz PGA FPU	**£2**
50MHz PGA FPU	**£29.9**

a1200 power tower

Power Tower Bare	£119.95
Power Tower 1 Power Tower plus A1200 motherboard, mouse, PC keyboard and FDD	£319.95
Power Tower 2 Power Tower, A1200 motherboard, mouse, PC keyboard, 68030 40MHz, 8MB of RAM, 3.2GB Hard Disk, IDE buffered interface, EIDE 99 and FDD	£499.95
Power Tower 3 Power Tower, A1200 motherboard, mouse, PC keyboard, 68030 40MHz, 16MB of RAM, 32x CD-ROM, 3.2GB Hard Disk, 4-Way IDE buffered interface, EIDE 99 and FDD	£579.95
Power Tower 4 Power Tower plus A1200 motherboard, mouse, PC keyboard, FDD, 68030 40MHz, 40MHz FPU, 32MB of RAM, 32x IDE CD-ROM drive, Internal IDE Zip drive and 1 cartridge, 3.2GB Hard Disk, internal Scan Doubler inc. Flicker Fixer, 15" SVGA monitor, 4-Way IDE buffered interface inc. EIDE 99 and external audio port with speakers	£899.95

power tower accessories

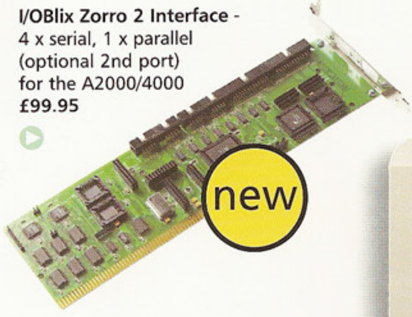
PCMCIA "V" adaptor	£19.95
External audio port	£15.95
"Y" cable to mix CD audio to the Amiga audio	£9.95
Internal to External SCSI adaptor (Internal 25 pin female connector, Internal 50 pin header External 25 pin male connector)	£19.95
SCSI II converter from(PPC) 50 pin high density to 25 D male, including extension cable to the Int/Ext SCSI adaptor	£29.95
SCSI converter from 50 pin female Centronic to 50 pin header (for internal connection of SCSI device to squirrel or similar interfaces)	£9.95
50 pin male to male Centronic lead	£14.95
50 pin female to male Centronic lead	£14.95
25 pin D female to 50 pin male Centronic lead	£14.95
3 way 50 pin header flat cable (SCSI)	£9.95
5 way 50 pin header flat cable (SCSI)	£14.95
7 way 50 pin header flat cable (SCSI)	£19.95
Ultra WIDE SCSI cable made on request	£POA
Standard 3 way IDE cable (3.5")	£4.95
44 high density IDE cable 5cm	£4.95
44 high density IDE cable 10cm	£7.95
44 high density IDE cable 80cm	£14.95
44 high density (2.5") to 40 standard (3.5") IDE cable	£12.95
Internal floppy extension cable (34 pins) for Towers	£4.95
Parallel Printer cable	£12.95
Serial Modem cable	£9.95
Internal to External male to female 9 pin D Extension lead for Surf Squirrel Serial Port or similar products	£4.95
200 Watt speakers	£35.95
80 Watt speakers	£19.95

4way buffered interface/EIDE'99 s/w

- Supports all IDE and ATAPI removable devices
- Autoboot from Zip and LS-120 drives
- 4 IDE/EIDE/ATAPI devices support
- 2 x 3.5" connector, 2 x 2.5" connector, separation and buffering of control signals for both ports
- Works with A600/1200 (kickstart 3.0)
- Buffered interface also works with IDEfix'97
- Support HDD 4GB (up to 32GB) by way of automatic HDD split into 4GB logical units, which guarantees 100% compatibility with the Operating System
- Allows large disks to operate with every filesystem OFS, FFS, AFS, PFS-2
- Includes Allegro CDFS - the fastest Amiga CD file system, supports video DVD format

4way Buffered Int. & EIDE'99 s/w £24.95

I/OBlix Zorro 2 Interface - 4 x serial, 1 x parallel (optional 2nd port) for the A2000/4000 **£99.95**



new

new product

power tower

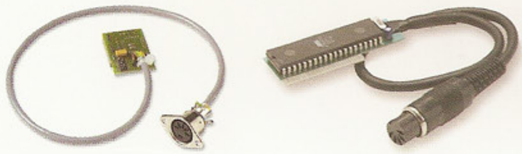
NOW INCLUDES 230 WATT PSU



a4000 power tower

New tower case for the A4000 including Zorro Bus Board, 7 Zorro II/III slots, 2 video slots, 5 PC- ISA slots, 230 watt power supply unit, 3 x 5.25" external access bays, 2 x 3.5" external access bays and 6 x 3.5" internal access bays

£189.95



Not universal — Universal PC/Amiga

keyboards & interfaces

A1200 desktop universal keyboard int.	£19.95
A1200 tower universal keyboard int.	£19.95
PC Keyboard interface only (A1200)	£19.95
Amiga Keyboard interface only (A1200)	£19.95
Original A4000 keyboard only*	£39.95
Original PC keyboard only*	£14.95

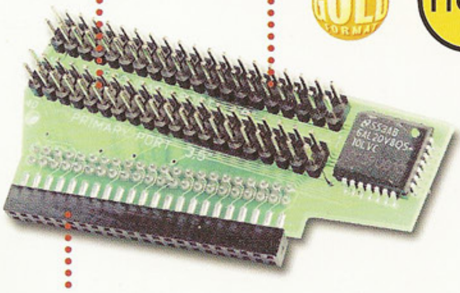
***requires keyboard interface**

new amiga 1200 motherboards

A1200 motherboard without ROMs	£99.95
A1200 motherboard with ROMs	£125.95

A replacement motherboard is usually the best long term solution if you have a damaged or unreliable A1200.

new











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